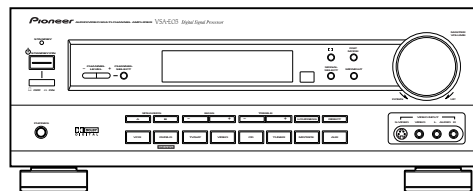


Service Manual

Pioneer



ORDER NO.
RRV2150

AUDIO/VIDEO MULTICHANNEL AMPLIFIER VSA-E03

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Type	Model	Power Requirement	The voltage can be converted by the following method.
	VSA-E03		
HYXJI	○	AC220-230V	AC240V, *
HYXJI/GR	○	AC220-230V	AC240V, *
HVXJI	○	AC230V	AC240V, *

* : Alter the wiring of the Power-supply block at the primary winding of Power-transformer referring to the "Line Voltage Selection" described in Service Manual.

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PIONEER CORPORATION 4-1, Meguro 1-Chome, Meguro-ku, Tokyo 153-8654, Japan
PIONEER ELECTRONICS SERVICE, INC. P.O. Box 1760, Long Beach, CA 90801-1760, U.S.A.
PIONEER ELECTRONIC (EUROPE) N.V. Haven 1087, Keetberglaan 1, 9120 Melsele, Belgium
PIONEER ELECTRONICS ASIACENTRE PTE. LTD. 253 Alexandra Road, #04-01, Singapore 159936
 © PIONEER CORPORATION 1999

T - ZZE JULY 1999 Printed in Japan

1. SAFETY INFORMATION

This service manual is intended for qualified service technicians ; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual. Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING

This product contains lead in solder and certain electrical parts contain chemicals which are known to the state of California to cause cancer, birth defects or other reproductive harm.

Health & Safety Code Section 25249.6 – Proposition 65

NOTICE

(FOR CANADIAN MODEL ONLY)

Fuse symbols  (fast operating fuse) and/or  (slow operating fuse) on PCB indicate that replacement parts must be of identical designation.

REMARQUE

(POUR MODÈLE CANADIEN SEULEMENT)

Les symboles de fusible  (fusible de type rapide) et/ou  (fusible de type lent) sur CCI indiquent que les pièces de remplacement doivent avoir la même désignation.

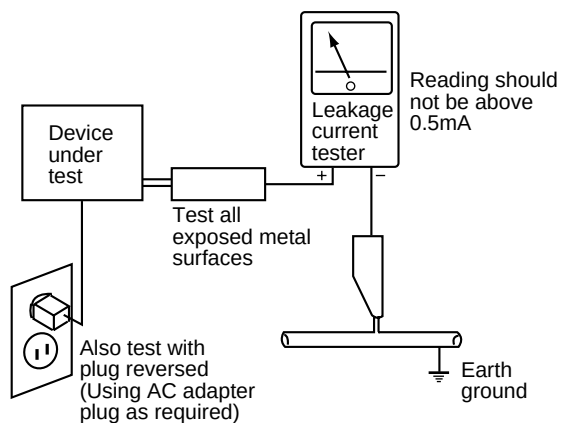
(FOR USA MODEL ONLY)

1. SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

LEAKAGE CURRENT CHECK

Measure leakage current to a known earth ground (water pipe, conduit, etc.) by connecting a leakage current tester such as Simpson Model 229-2 or equivalent between the earth ground and all exposed metal parts of the appliance (input/output terminals, screwheads, metal overlays, control shaft, etc.). Plug the AC line cord of the appliance directly into a 120V AC 60Hz outlet and turn the AC power switch on. Any current measured must not exceed 0.5mA.



AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

2. PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in the appliance have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a Δ on the schematics and on the parts list in this Service Manual.

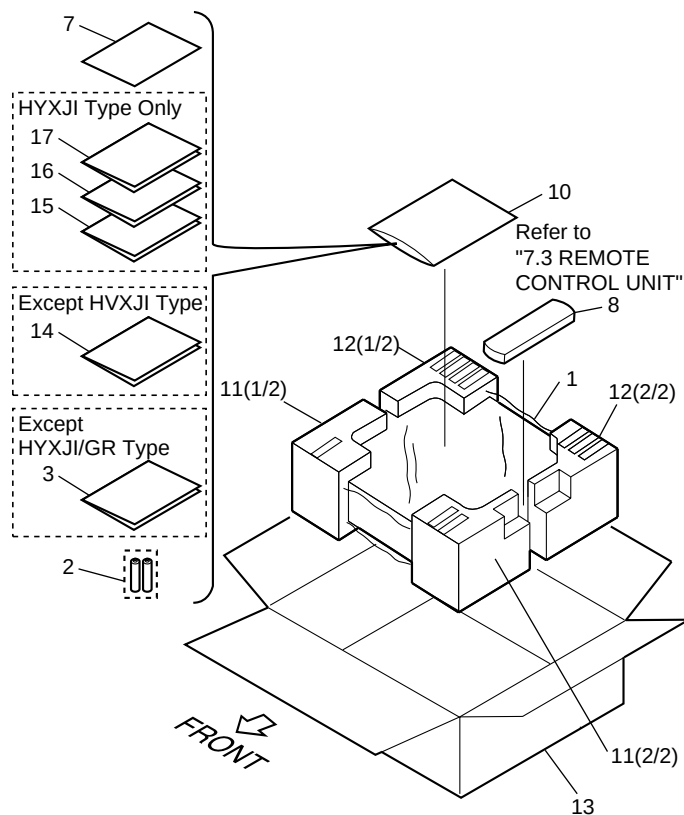
The use of a substitute replacement component which does not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

2. EXPLODED VIEWS AND PARTS LIST

NOTES: ● Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
 ● The Δ mark found on some component parts indicates the importance of the safety factor of the part.
 Therefore, when replacing, be sure to use parts of identical designation.
 ● Screws adjacent to ▼ mark on the product are used for disassembly.

2.1 PACKING



(1) PACKING PARTS LIST

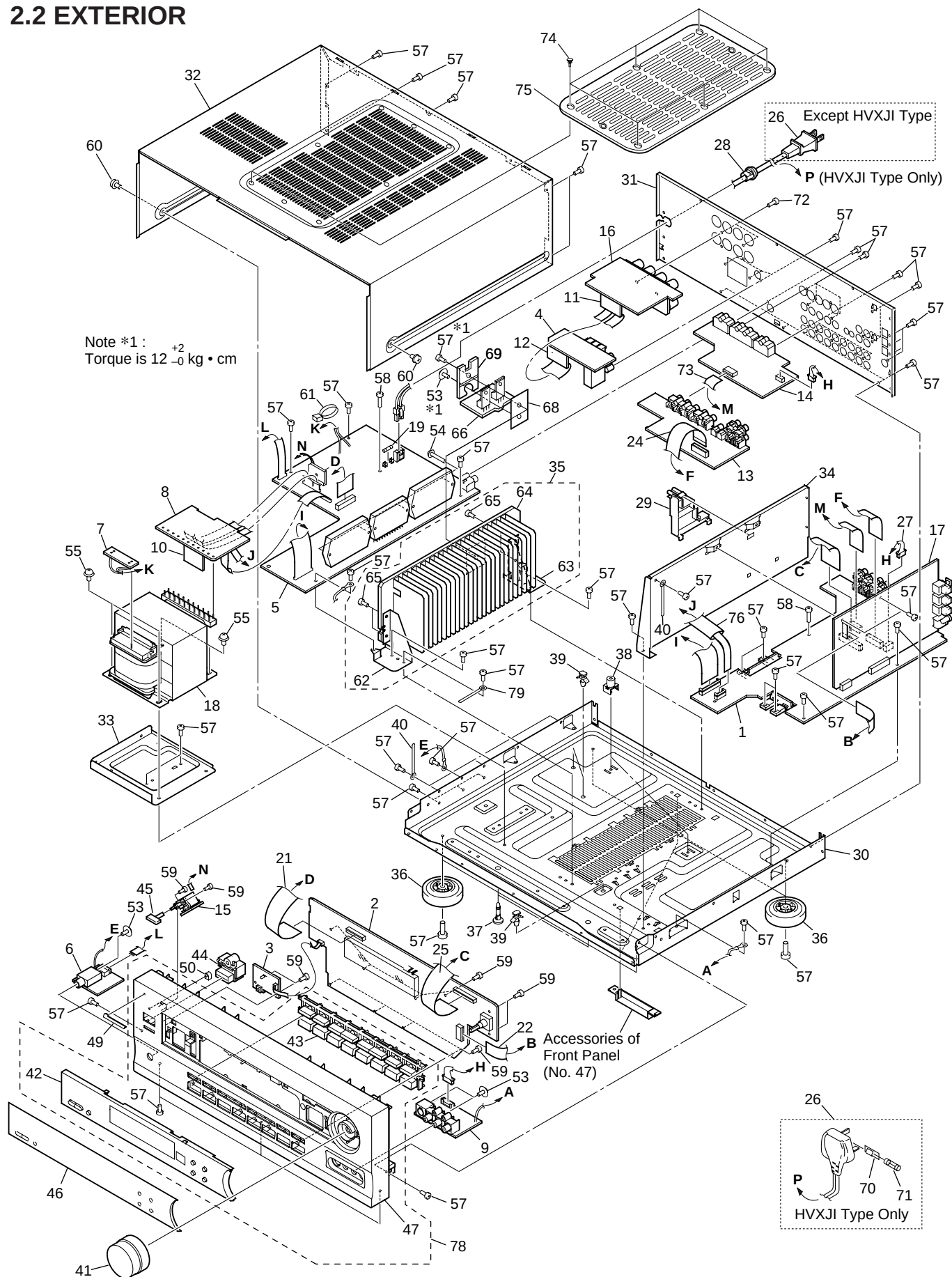
Mark	No.	Description	Part No.
NSP	1	Packing Sheet	AHG7010
	2	Alkaline Dry Cell Battery (LR6, AA)	VEM1012
	3	Operating Instructions	See Contrast table (2)
	4		
	5		
NSP	6		
	7	Warranty Card	ARY7022
	8	Remote Control Unit (CU-VSA035)	AXD7237
	9		
	10	Polyethylene Bag (0.03×230×340)	Z21-038
	11	Front Pad 508	AHA7236
	12	Rear Pad 508	AHA7237
	13	Packing Case E03	AHD7781
	14	Operating Instructions	See Contrast table (2)
	15	Operating Instructions	See Contrast table (2)
	16	Operating Instructions	See Contrast table (2)
	17	Operating Instructions	See Contrast table (2)

(2) CONTRAST TABLE

VSA-E03/HYXJI, HYXJI/GR and HVXJI are constructed the same except for the following :

Mark	No.	Symbol and Description	Part No.			Remarks
			HYXJI Type	HYXJI/GR Type	HVXJI Type	
	3	Operating Instructions (English)	ARB7212	Not used	ARB7212	
	14	Operating Instructions (German)	ARC7226	ARC7226	Not used	
	15	Operating Instructions (French/Italian)	ARC7267	Not used	Not used	
	16	Operating Instructions (Swedish/Dutch)	ARC7268	Not used	Not used	
	17	Operating Instructions (Portuguese/Spanish)	ARC7269	Not used	Not used	

2.2 EXTERIOR



(1) EXTERIOR PARTS LIST

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
NSP	1	INPUT Assy	AWX7438		41	Volume Knob 508	AAB7179
	2	FRONT Assy	AWX7439		42	Sub Panel 508	AAD7482
	3	POWER SW Assy	AWX7222		43	Function Button E03	AAD7543
NSP	4	REAR SP Assy	AWX7251		44	Power Button	AAD7440
	5	AMP Assy	AWX7446		45	Power Button M	AAD7442
	6	HEADPHONE Assy	AWX7230		46	Display Window W5	AAK7594
NSP	7	TRANS 1 Assy	AWX7287		47	Front Panel E03	AMB7647
	8	TRANS 2 Assy	AWX7292		48	*****	
	9	FRONT VIDEO Assy	AWX7241		49	Name Plate	PAM1776
	10	BARRIER Assy	AWX7284		50	LED Lens	PNW2019
NSP	11	F.SP.CONNECT Assy	AWX7285		51	*****	
NSP	12	R.C.SP.CONNECT Assy	AWX7286		52	*****	
	13	VIDEO Assy	AWX7441		53	Screw	ABA7009
	14	SVIDEO Assy	AWX7450		54	Screw	ABA7043
	15	MECH SW Assy	AWX7247		55	Screw	ABA7044
	16	FRONT LARGE Assy	AWX7245		56	*****	
△	17	DOLBY DIGITAL Assy	AWX7196		57	Screw	BBZ30P080FZK
△	18	Power Transformer (T1)	ATS7242		58	Screw	BBZ30P200FMC
	19	Fuse (FU1 : T2.5A)	REK-104		59	Screw	BPZ30P080FMC
	20	*****			60	Screw	FBT40P080FZK
	21	FFC 21P (J2)	ADD7100		61	Binder (BK-1)	ZCA-BK1
	22	FFC 15P (J4)	ADD7102	NSP	62	Heat Sink Angle F	ANG7194
	23	*****			63	Heat Sink Angle R	ANG7195
	24	FFC 17P (J8)	ADD7107	NSP	64	Heat Sink D5	ANH7090
	25	FFC 26P (J3)	ADD7118		65	Screw	BBZ30P080FMC
△	26	AC Power Cord	See Contrast table (2)		66	FET Assy	AWX7228
NSP	27	8P Shield Cable (J6)	ADX7243		67	*****	
	28	Cord Stopper	CM-22B		68	Sheet	AEE7026
	29	Tuner Holder B	AAD7490		69	FET Angle	ANG7186
NSP	30	Under Base D5	ANA7079	△	70	Fuse Holder	See Contrast table (2)
	31	Rear Panel	ANC7859	△	71	Fuse (T5A)	See Contrast table (2)
	32	Bonnet Case	AZN7771		72	Screw	ABA1007
	33	Trans Frame	ANG7193		73	FFC 11P (J7)	ADD7142
	34	DSP Shield	ANG7196		74	Push Rivet	AEC7025
NSP	35	Heat Sink Assy D5	ANH7095		75	Top Cover	AME7375
	36	Insulator	PNW2766		76	Shrink Shield 140	PDM1021
	37	Locking Card Spacer	AEC7160	NSP	77	*****	
	38	PCB Mold	AMR2533		78	Front Panel E03 Assy	AMB7648
NSP	39	Card Spacer	DEC1770		79	Cord Clamper	RNH-184
NSP	40	Binder	RNE1277				

(2) CONTRAST TABLE

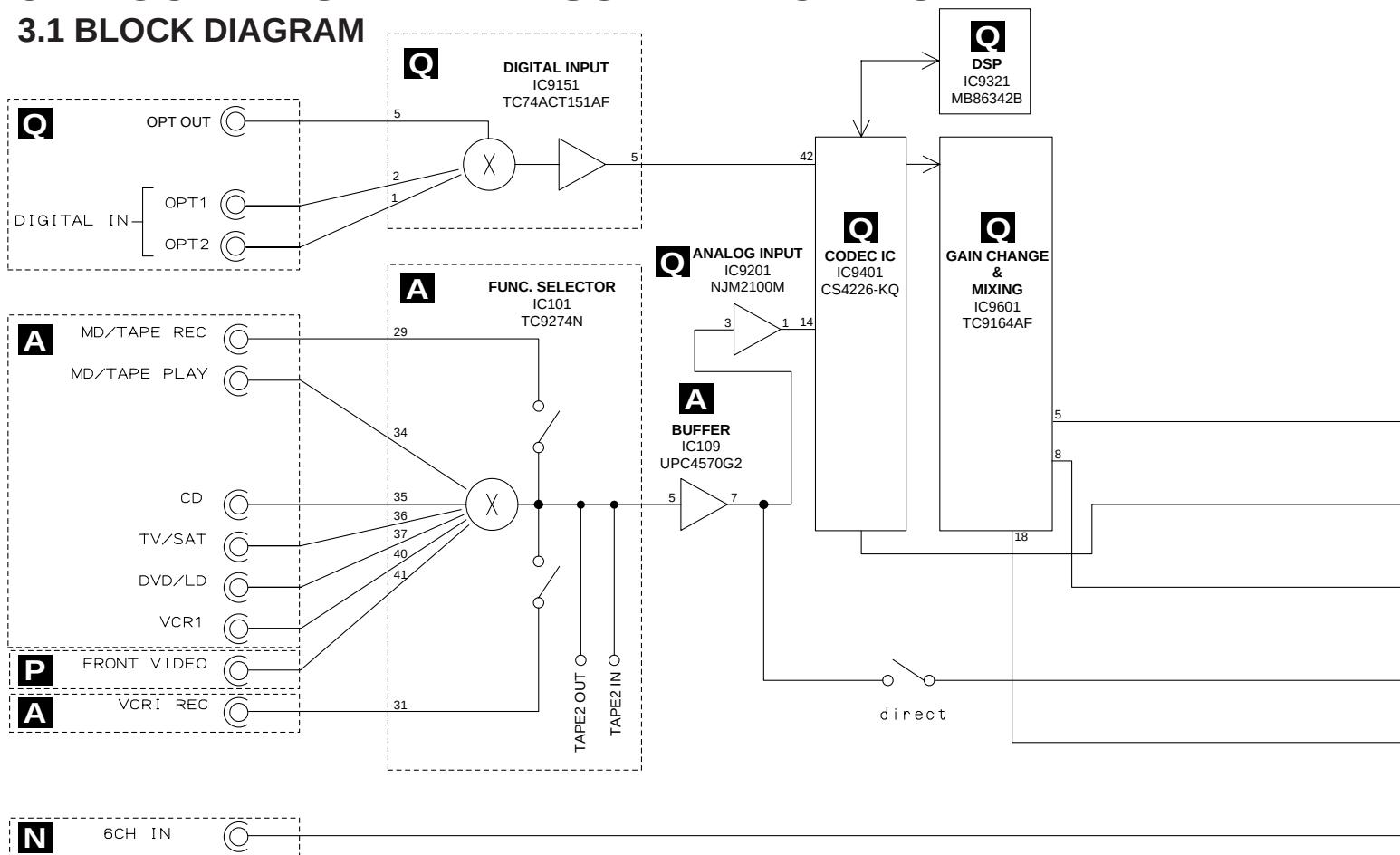
VSA-E03/HYXJI, HYXJI/GR and HVXJI are constructed the same except for the following :

Mark	No.	Symbol and Description	Part No.			Remarks
			HYXJI Type	HYXJI/GR Type	HVXJI Type	
△	26	AC Power Cord	VDG1061	VDG1061	VDG1063	
△	70	Fuse Holder	Not used	Not used	VKR1003	
△	71	Fuse (T5A)	Not used	Not used	PEK1003	

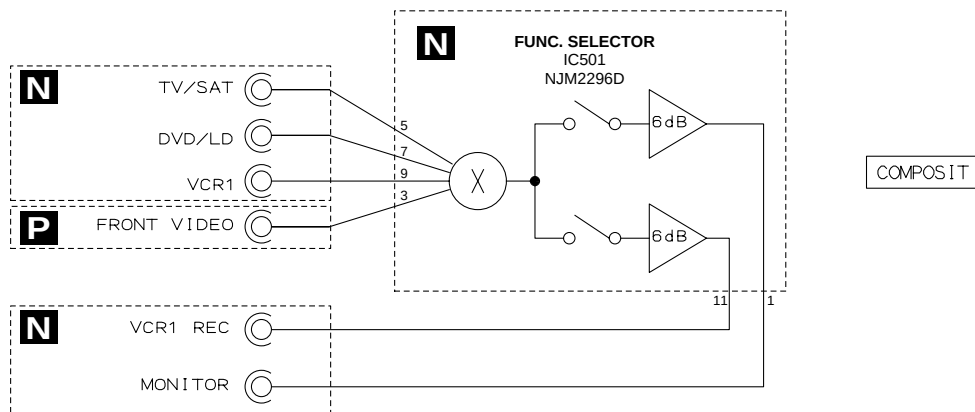
3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM

3.1 BLOCK DIAGRAM

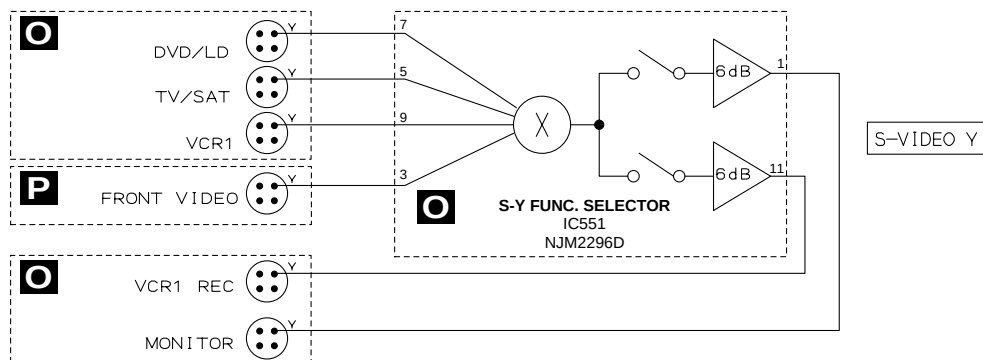
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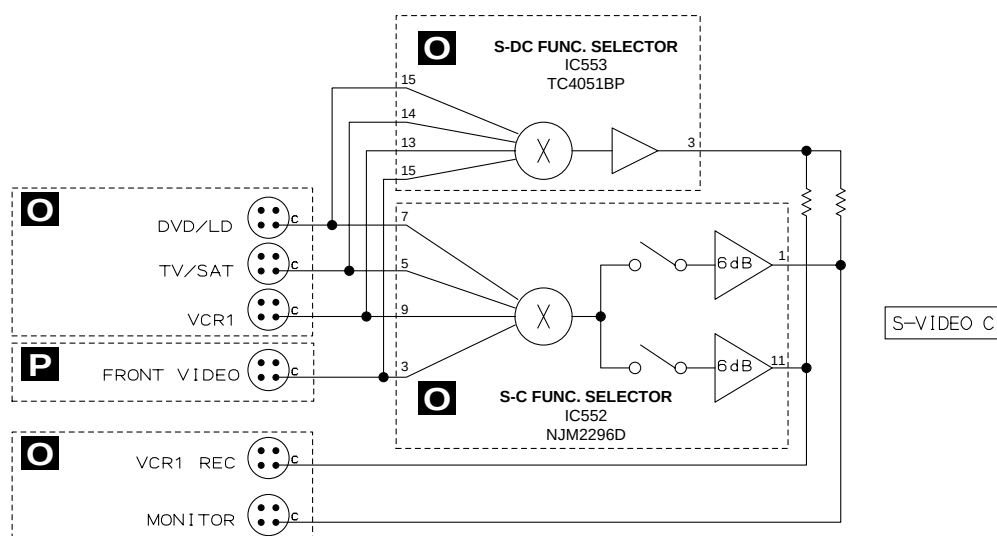
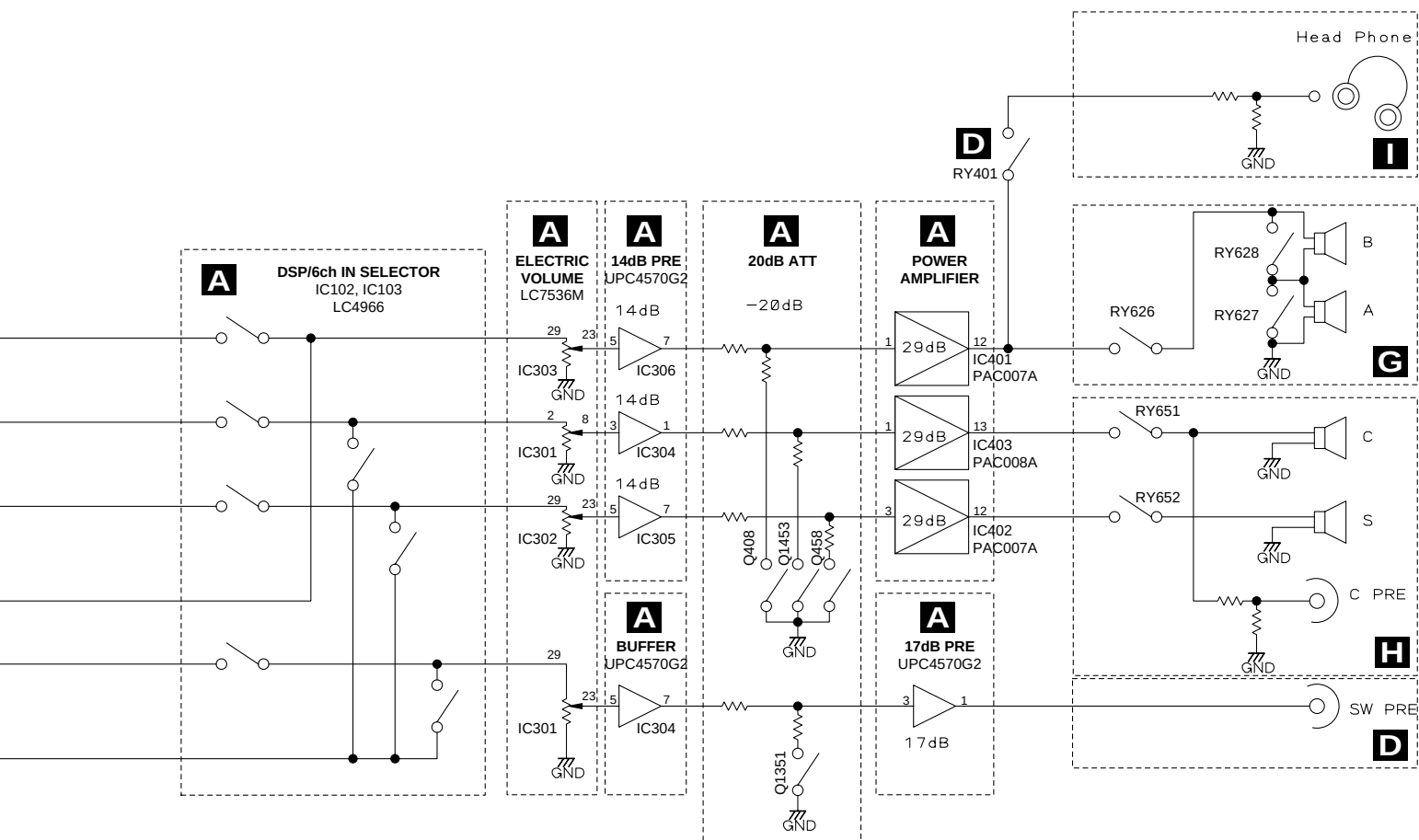
C



D



Note : When ordering service parts, be sure to refer to "EXPLODED VIEWS and PARTS LIST" or "PCB PARTS LIST".



A

B

C

D

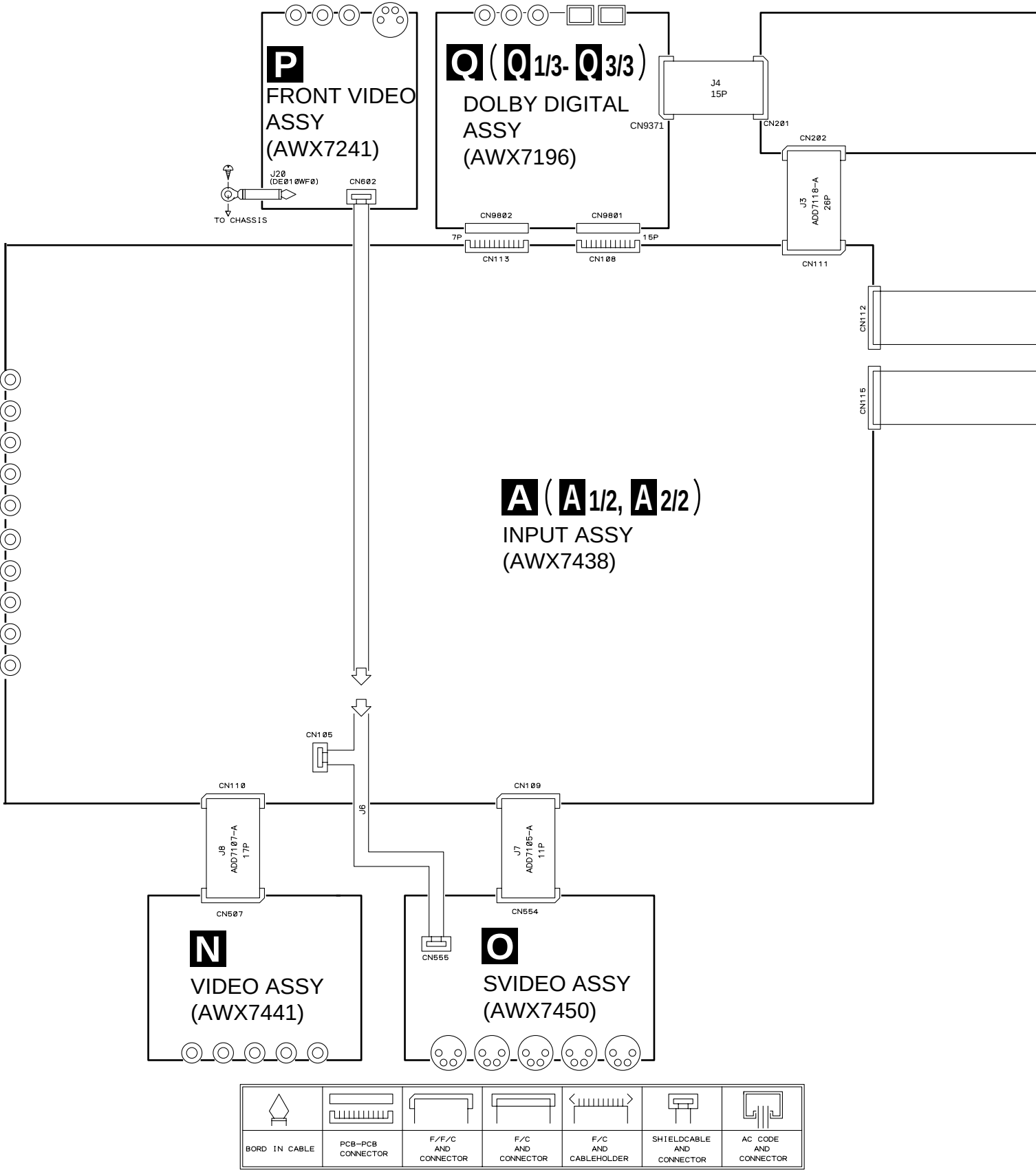
3.2 OVERALL WIRING CONNECTION DIAGRAM

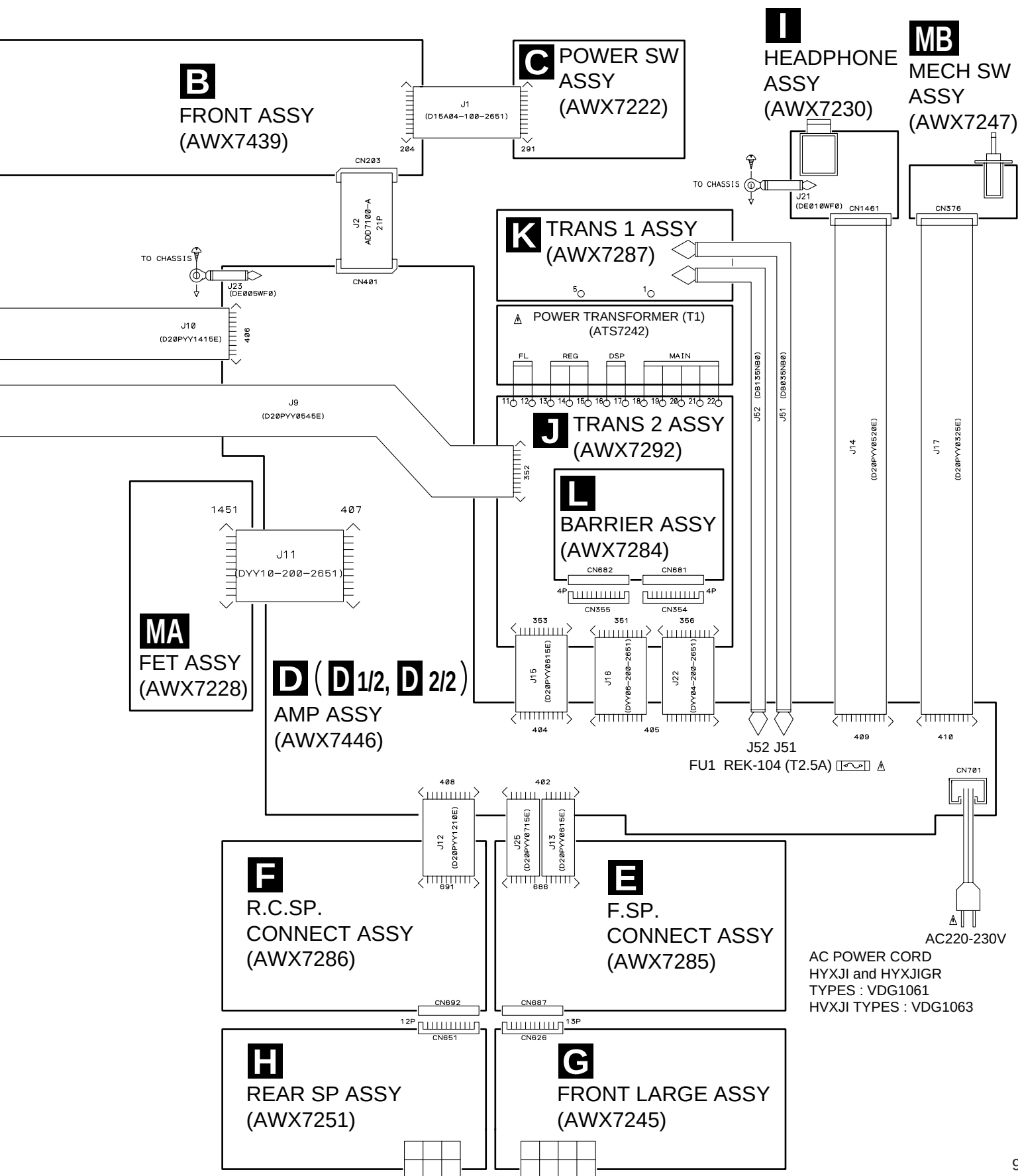
A

B

C

D





A

B

C

D

3.3 INPUT ASSY (1/2)

A 1/2 INPUT ASSY(1/2)
(AWX7438)

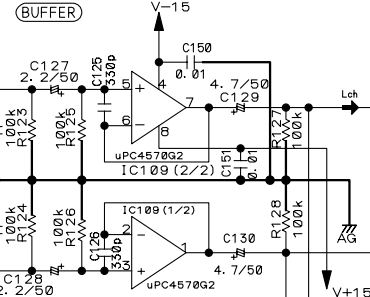
• FUNCTION BLOCK

P CN602

CN105
B5B-PH-K-S

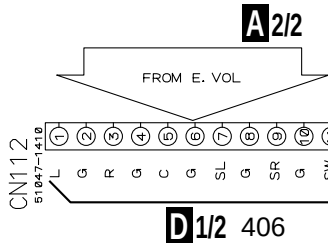
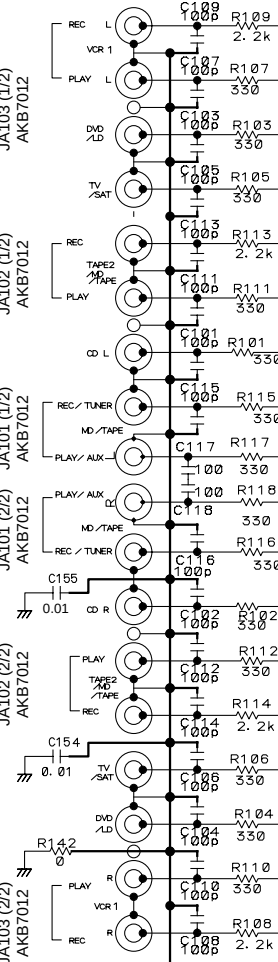
EV1
EV2
CK
DT
ATT
12

(BUFFER)



(FUNC. SELECTOR)

VEF1040-
120, 121
122



NOTE

1. RESISTORS
Unit: k-Ω, M-Ω or Ω unless otherwise noted.
Rated power: 1/10W unless otherwise noted.
Tolerance: (J)±5% unless otherwise noted.
2. CAPACITORS
Unit: p-pF or μF unless otherwise noted.
Ratings: Capacity(μF)/Voltage(V) unless otherwise noted.
Rated Voltage: 50V except for electrolytic capacitors.
3. DIODES
Indicated in 1SS355-TRB

A 2/2

D 1/2 406

CN111
52045-2645

B CN202

A

- E. VOL BLOCK

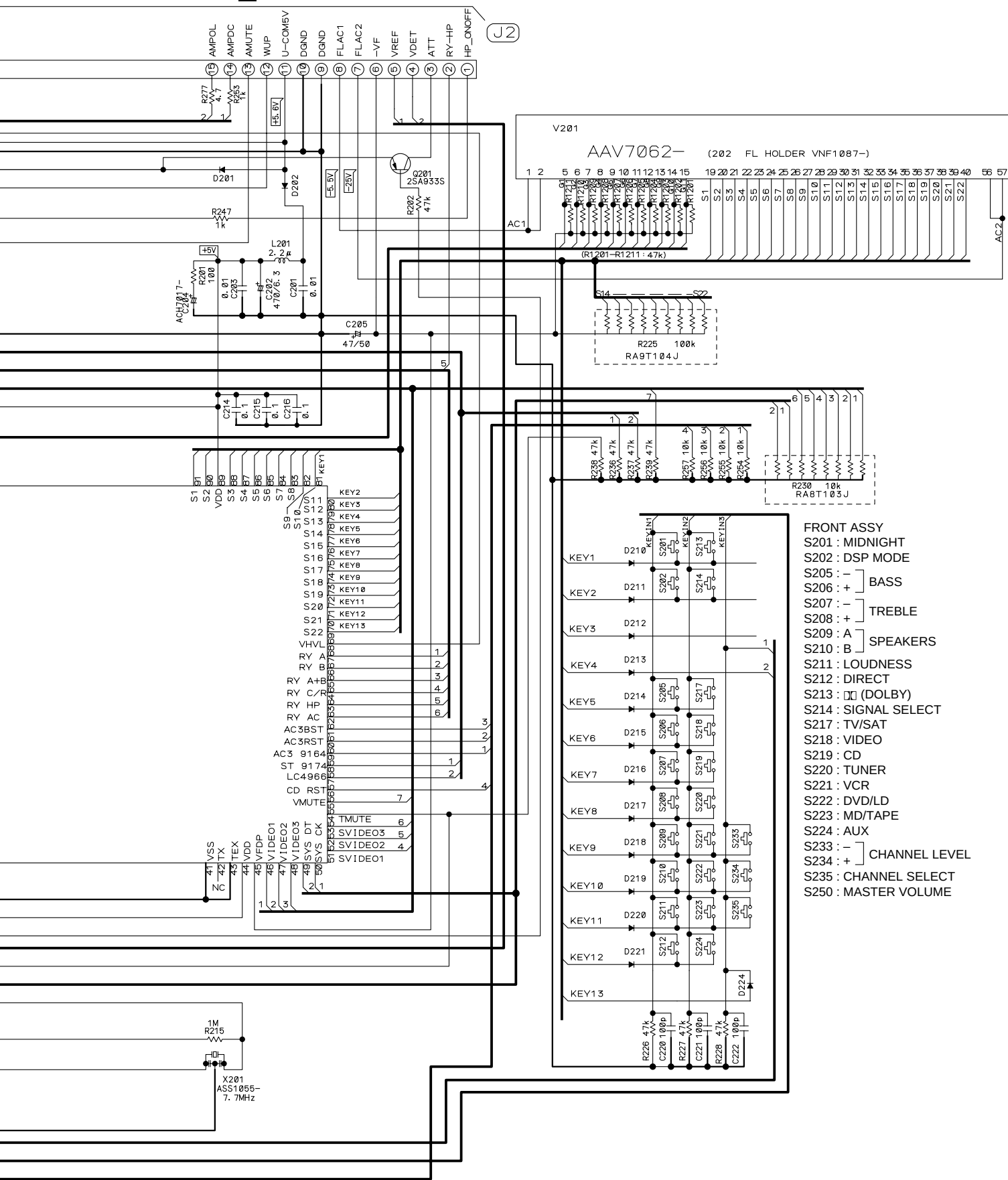
B



Indicated in 1SS355-TRB



D2/2 CN401



3.6 AMP (1/2), F.SP.CONNECT, R.C.SP.CONNECT, FRONT LARGE and REAR SP ASSYS

A

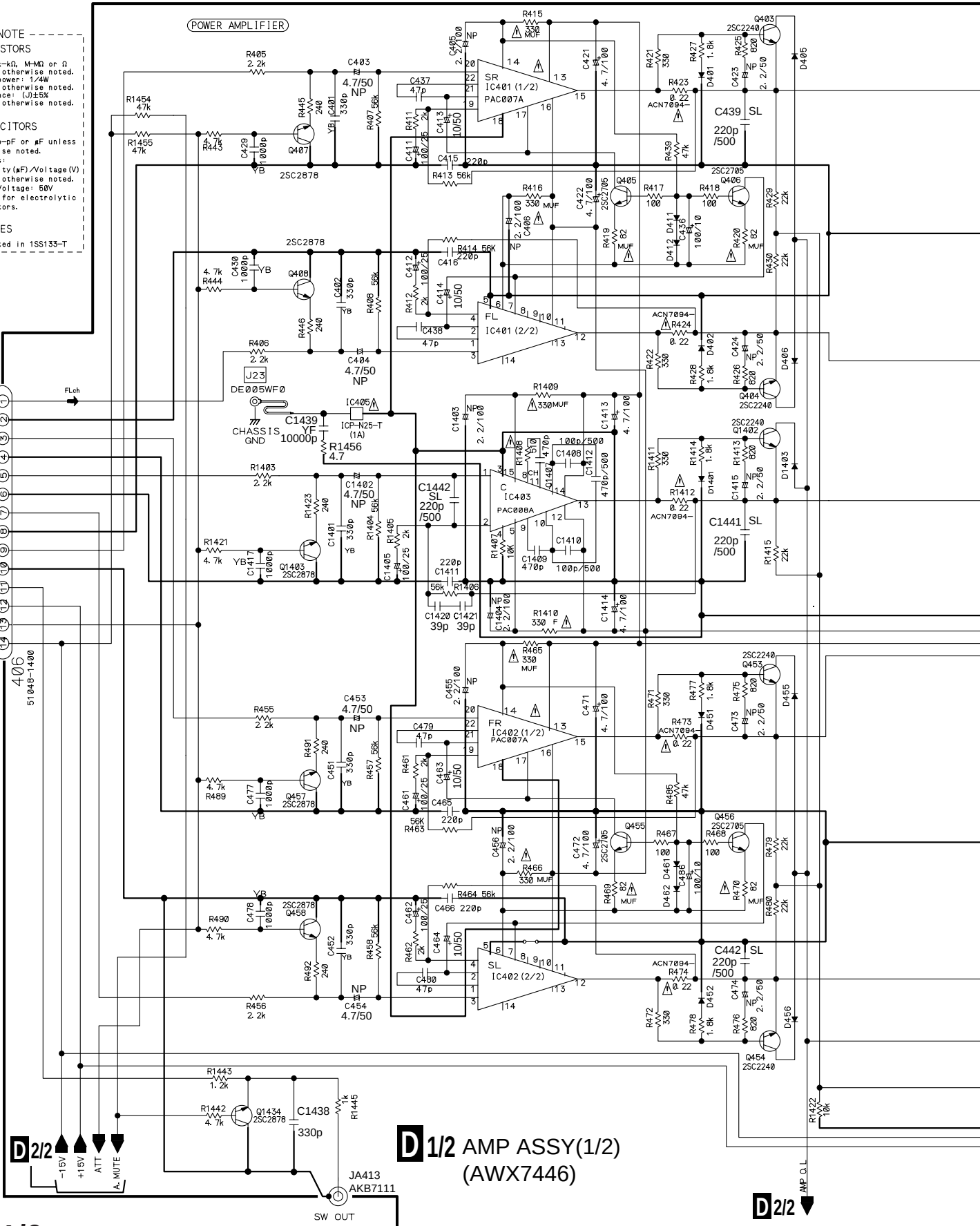
B

C

D

- NOTE
1. RESISTORS
Unit: k-K, M-M or Ω unless otherwise noted.
Rated power: 1/4W unless otherwise noted.
Tolerance: (J) $\pm 5\%$ unless otherwise noted.
2. CAPACITORS
Unit: p-pF or μ F unless otherwise noted.
Ratings:
Capacity(μ F)/Voltage(V) unless otherwise noted.
Rated Voltage: 50V except for electrolytic capacitors.
3. DIODES
Indicated in 1SS133-T

A1/2 CN112



D 1/2

D 1/2 AMP ASSY(1/2)
(AWX7446)

D 2/2



FRONT LARGE ASSY (AWX7245)

CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE,
REPLACE ONLY WITH SAME TYPE NO. ICP-N25, MFD BY
ROHM CO., LTD. FOR IC404 and IC405.

3.7 AMP (2/2), HEADPHONE, TRANS 2, TRANS 1, BARRIER, FET and MECH SW ASSYS

A

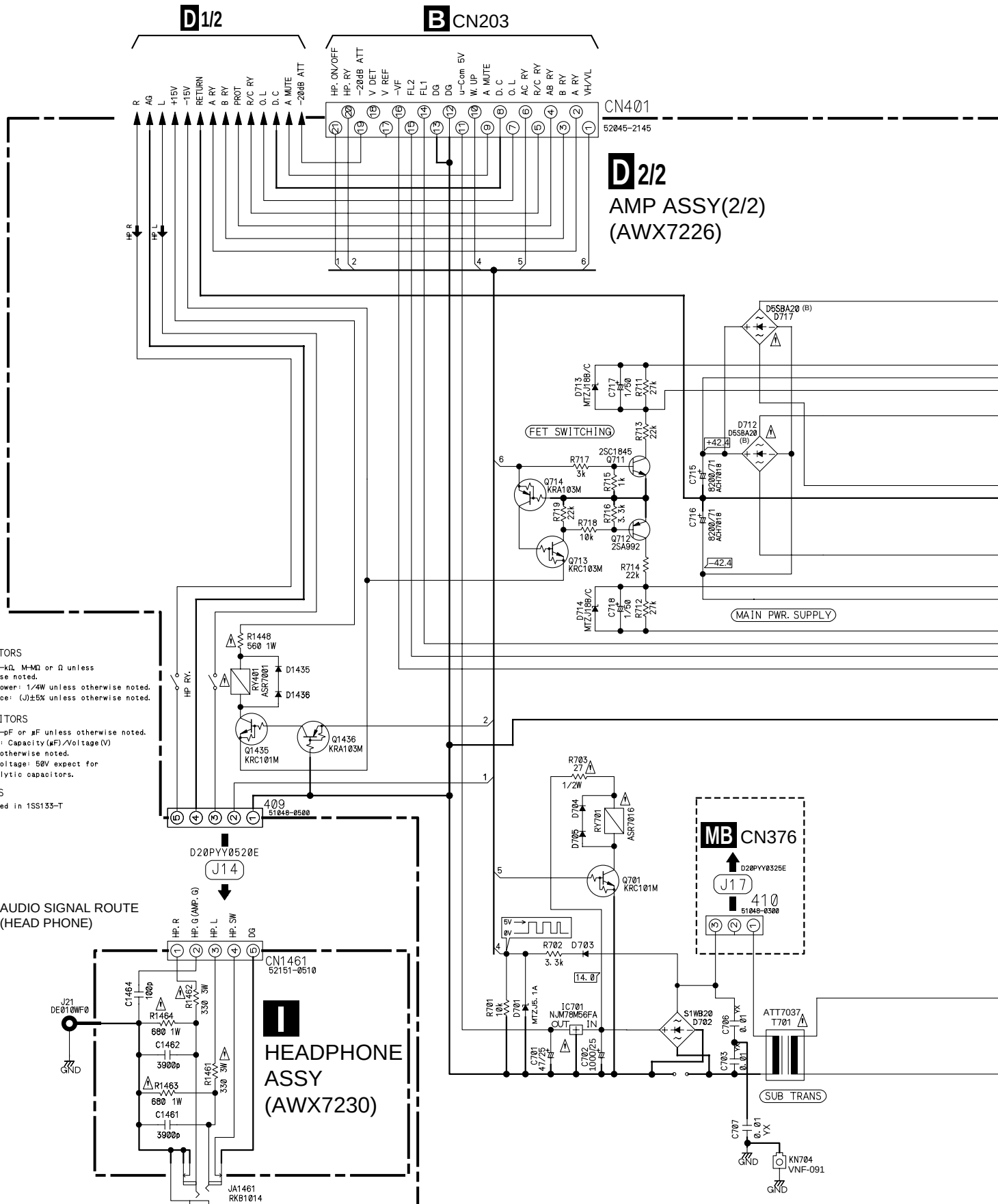
B

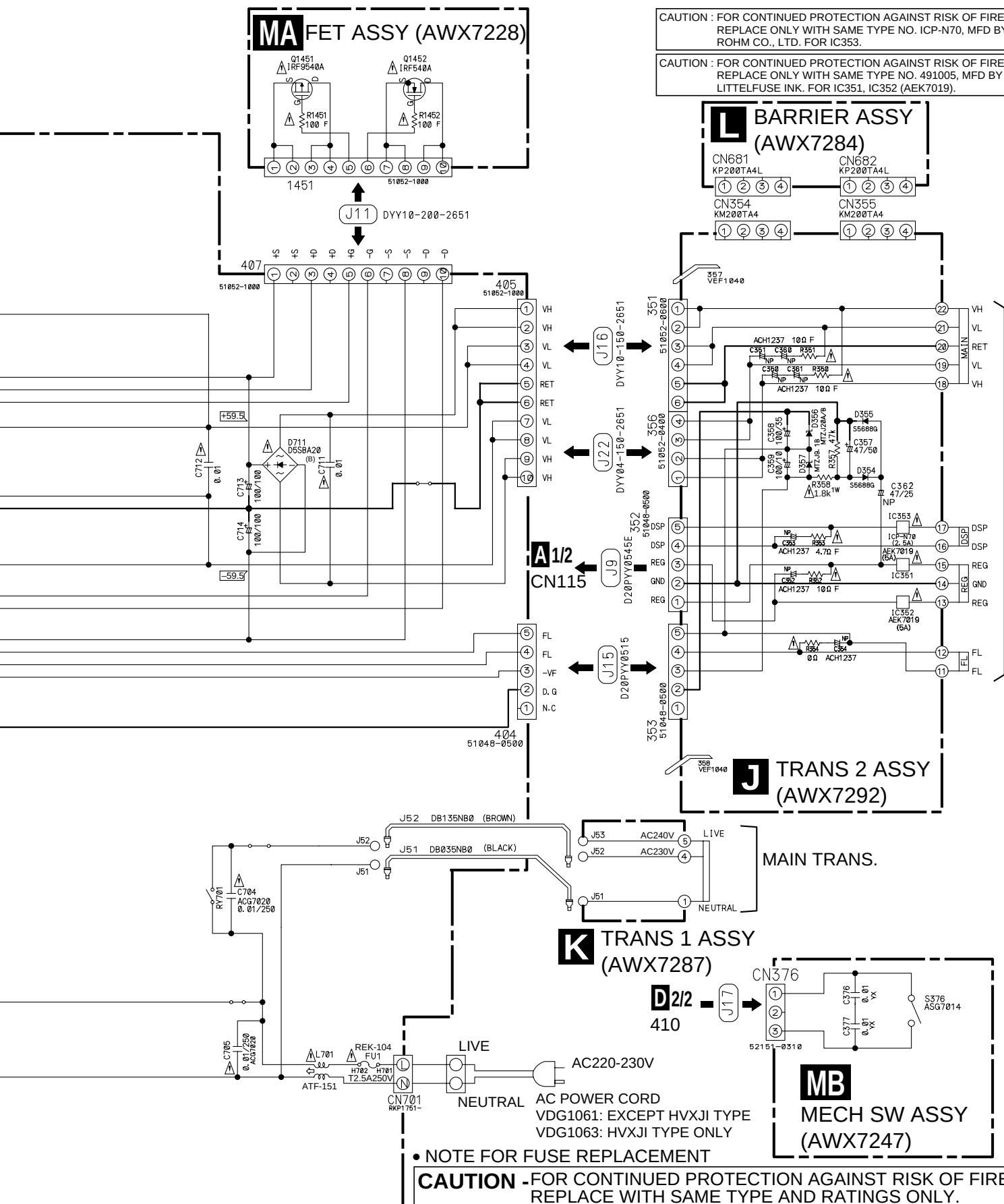
C

D

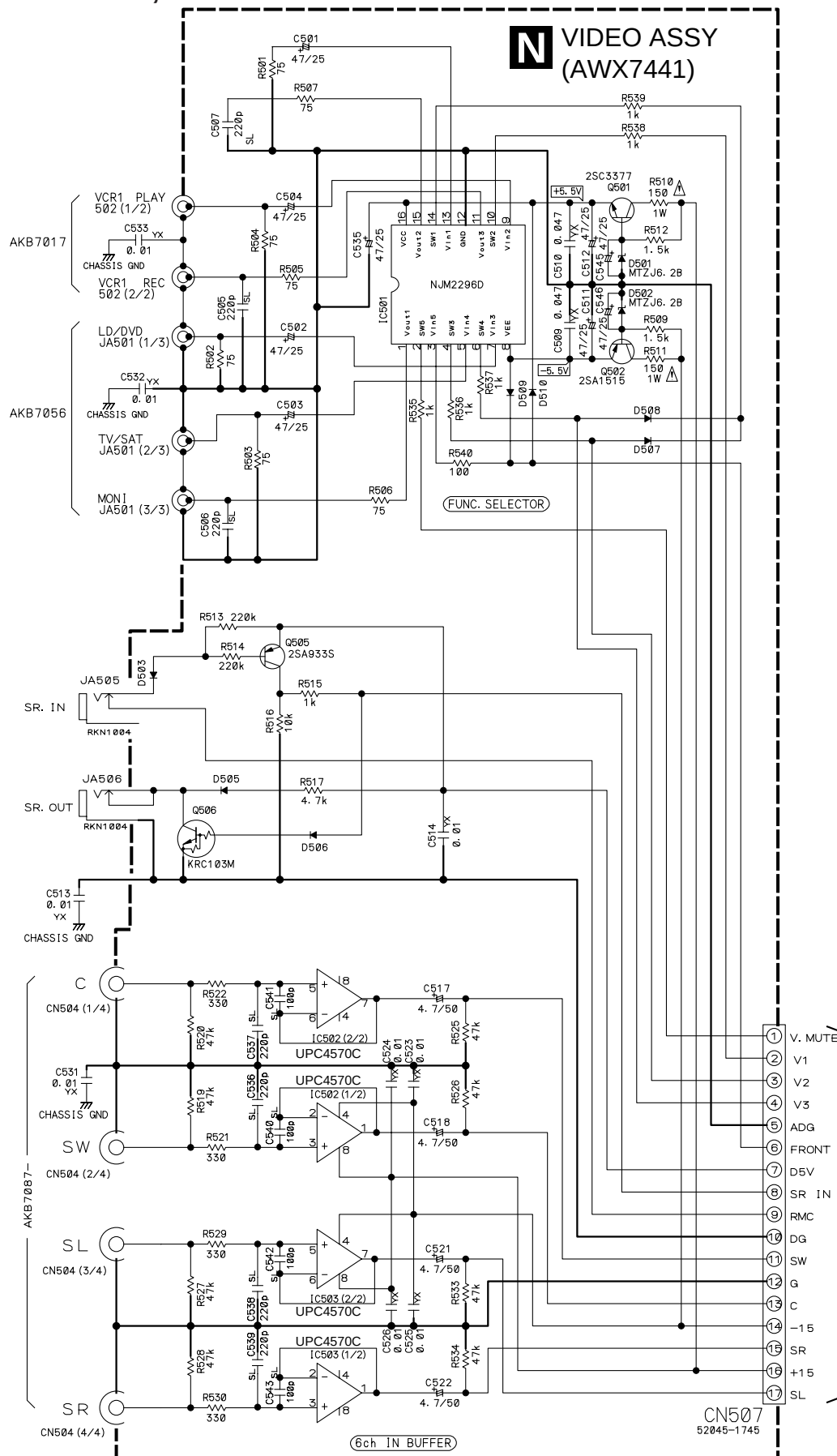
- NOTE
1. RESISTORS
Unit: k- Ω , M-M Ω or Ω unless otherwise noted.
Rated power: 1/4W unless otherwise noted.
Tolerance: (J) $\pm$ 5% unless otherwise noted.
 2. CAPACITORS
Unit: p-pF or μ F unless otherwise noted.
Ratings: Capacity(μ F)/Voltage(V) unless otherwise noted.
Rated Voltage: 50V except for electrolytic capacitors.
 3. DIODES
Indicated in 1SS133-T

HP : AUDIO SIGNAL ROUTE (HEAD PHONE)

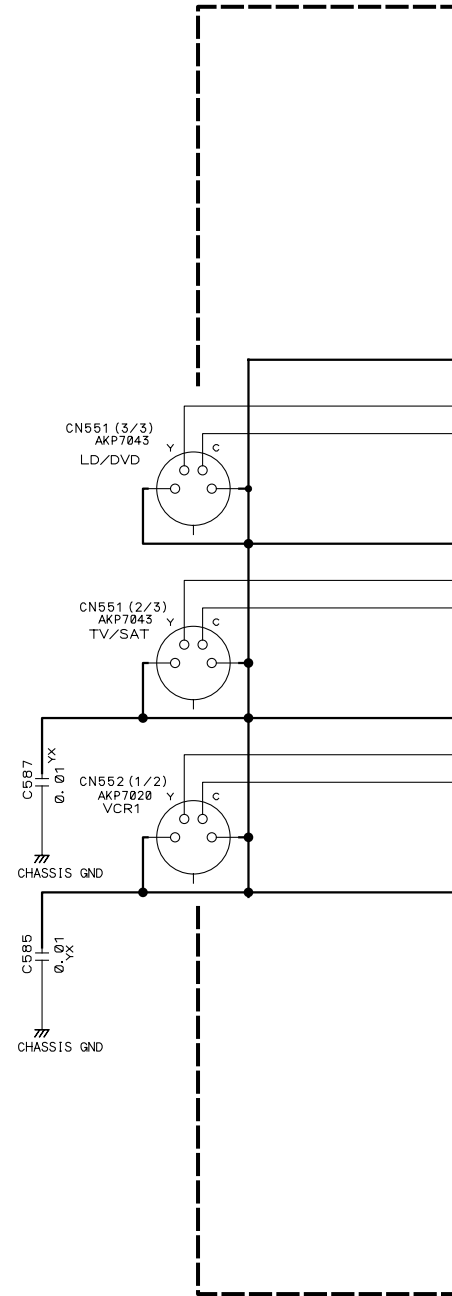




3.8 VIDEO, SVIDEO and FRONT VIDEO ASSYS



A1/2
CN110

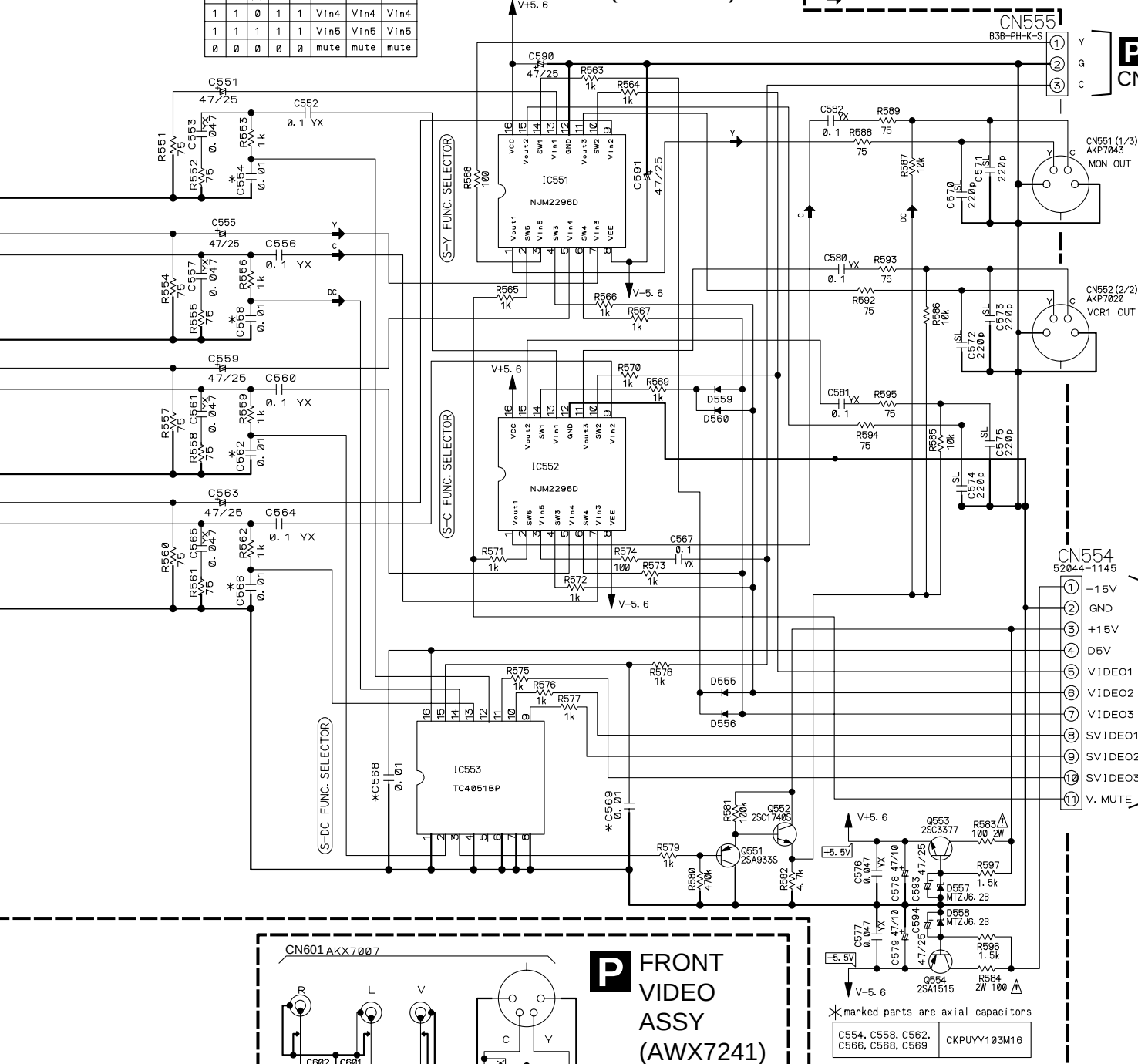


NJM2296D control port status

SW1	SW2	SW3	SW4	SW5	Vout1	Vout2	Vout3
0	1	(0)	(0)	1	Vin1	mute	Vin1
1	0	(1)	0	1	Vin2	Vin2	mute
1	1	(1)	0	1	Vin3	Vin3	Vin3
1	1	0	1	1	Vin4	Vin4	Vin4
1	1	1	1	1	Vin5	Vin5	Vin5
0	0	0	0	0	mute	mute	mute

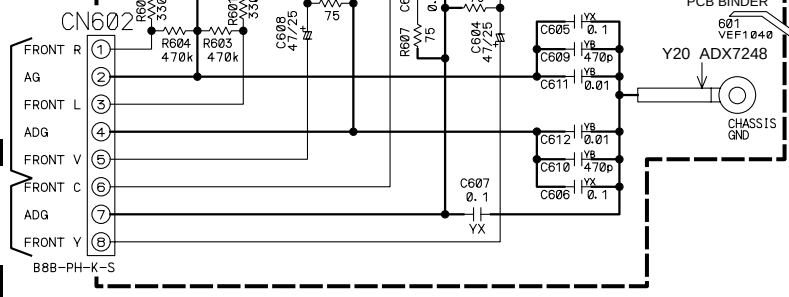
SVIDEO ASSY (AWX7450)

Y : S-VIDEO Y-SIGNAL ROUTE
C : S-VIDEO C-SIGNAL ROUTE
DC : S-VIDEO C-DC ROUTE



FRONT VIDEO ASSY (AWX7241)

OP CN555 A112 CN105



*marked parts are axial capacitors

C554, C558, C562,

C566, C568, C569

CKPUY1103M16

NOTE

1. RESISTORS

Unit: k-Ω, M-Ω or Ω unless otherwise noted.

Rated power: 1/4W unless otherwise noted.

Tolerance: (J)±5% unless otherwise noted.

2. CAPACITORS

Unit: p-pF or μF unless otherwise noted.

Ratings: Capacity(μF)/Voltage(V) unless otherwise noted.

Rated Voltage: 50V expect for electrolytic capacitors.

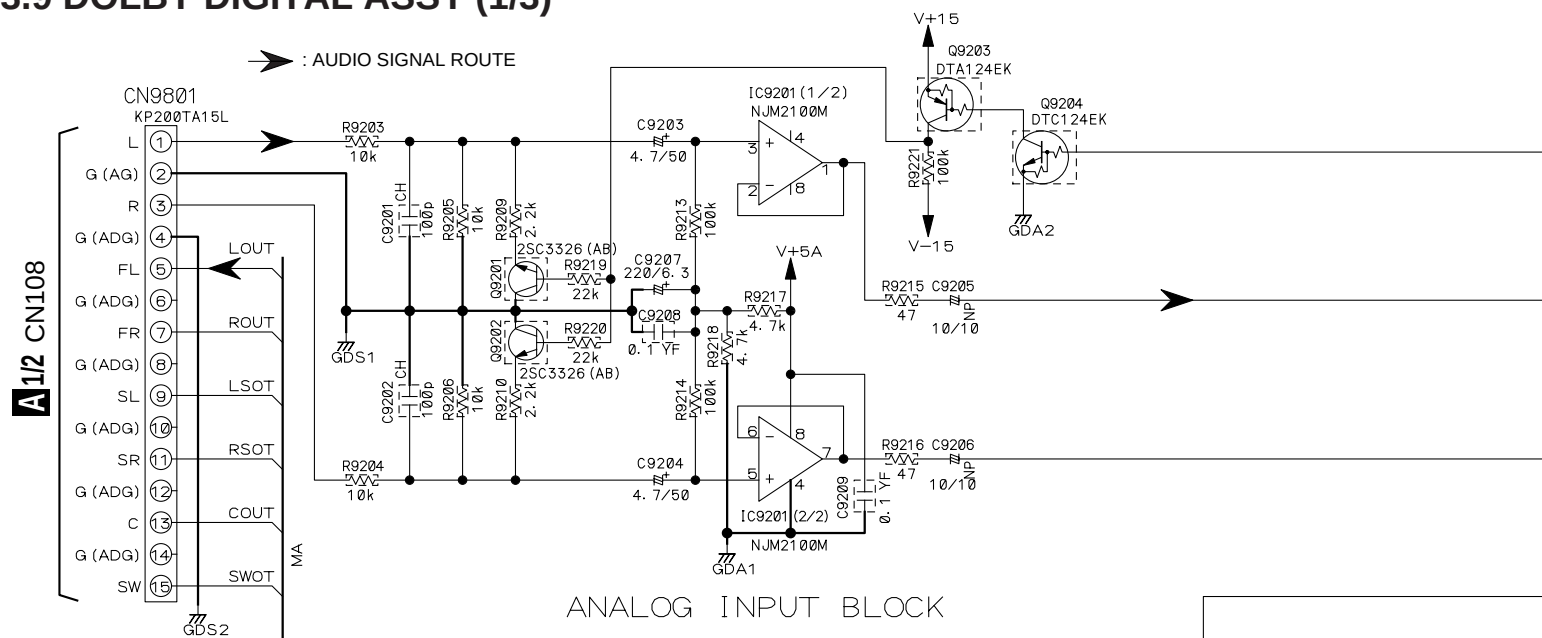
3. DIODES

Indicated in 1SS133-T

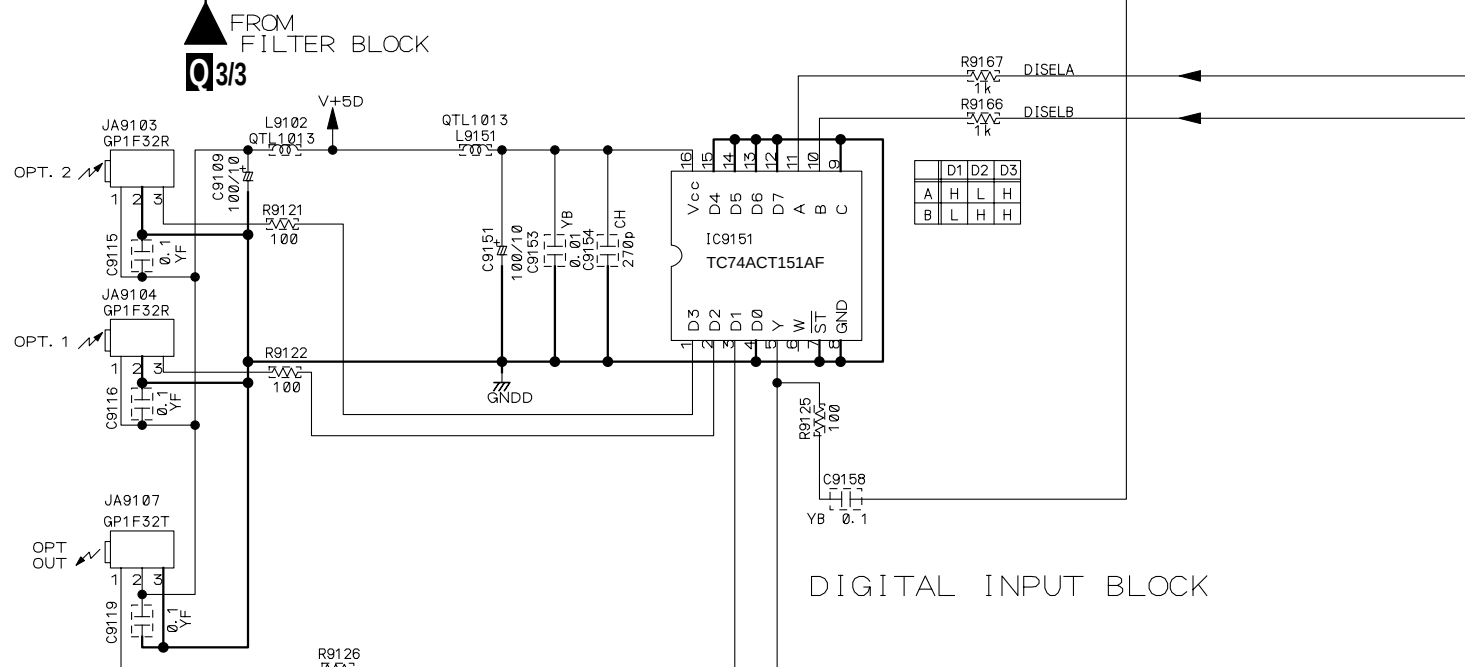
OP

3.9 DOLBY DIGITAL ASSY (1/3)

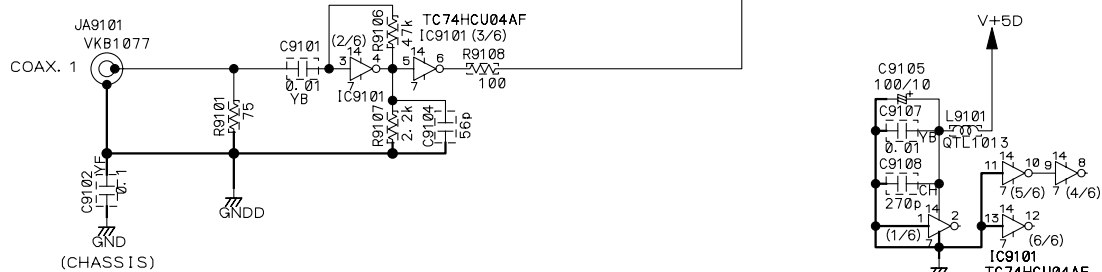
A



B

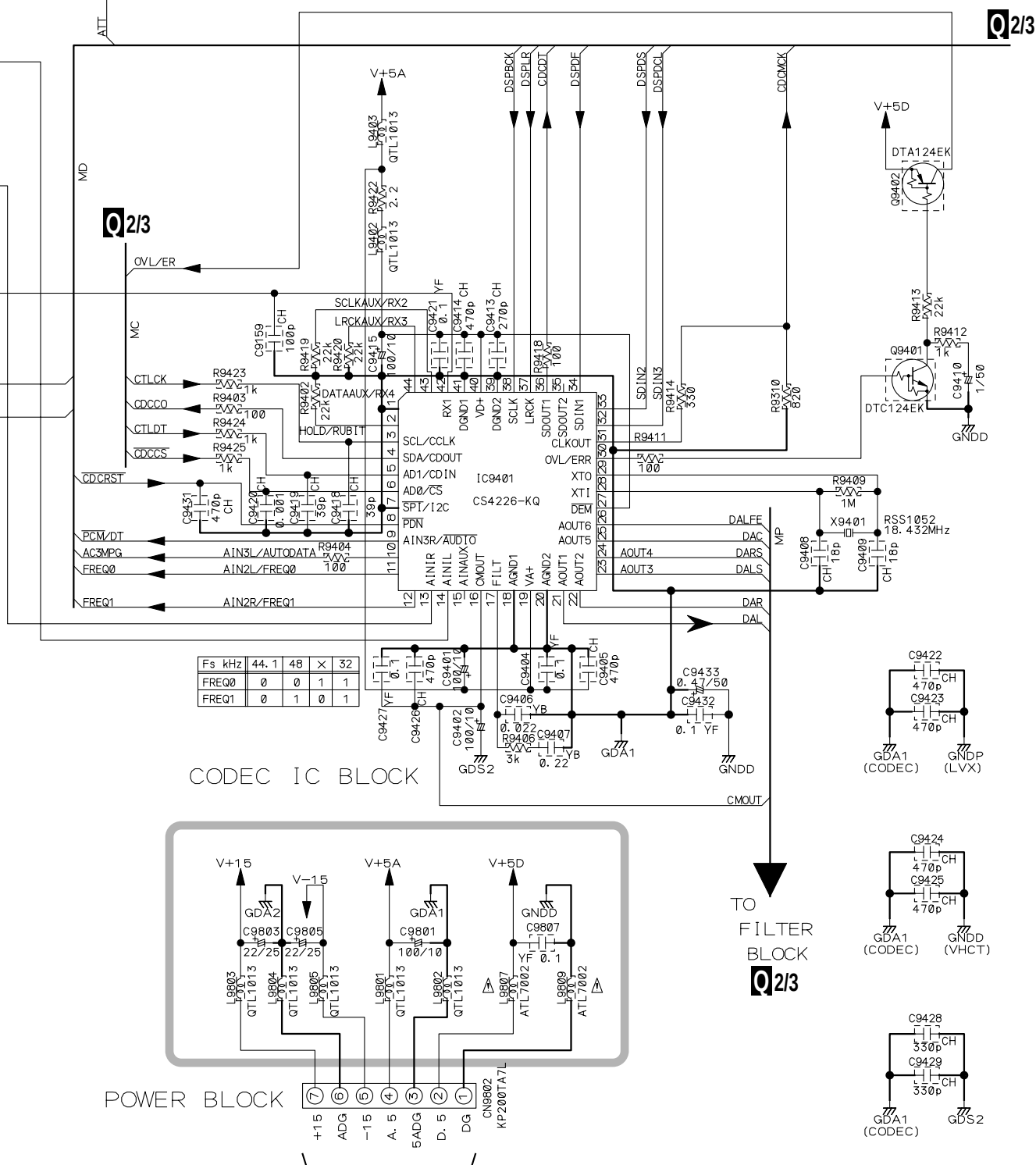


C



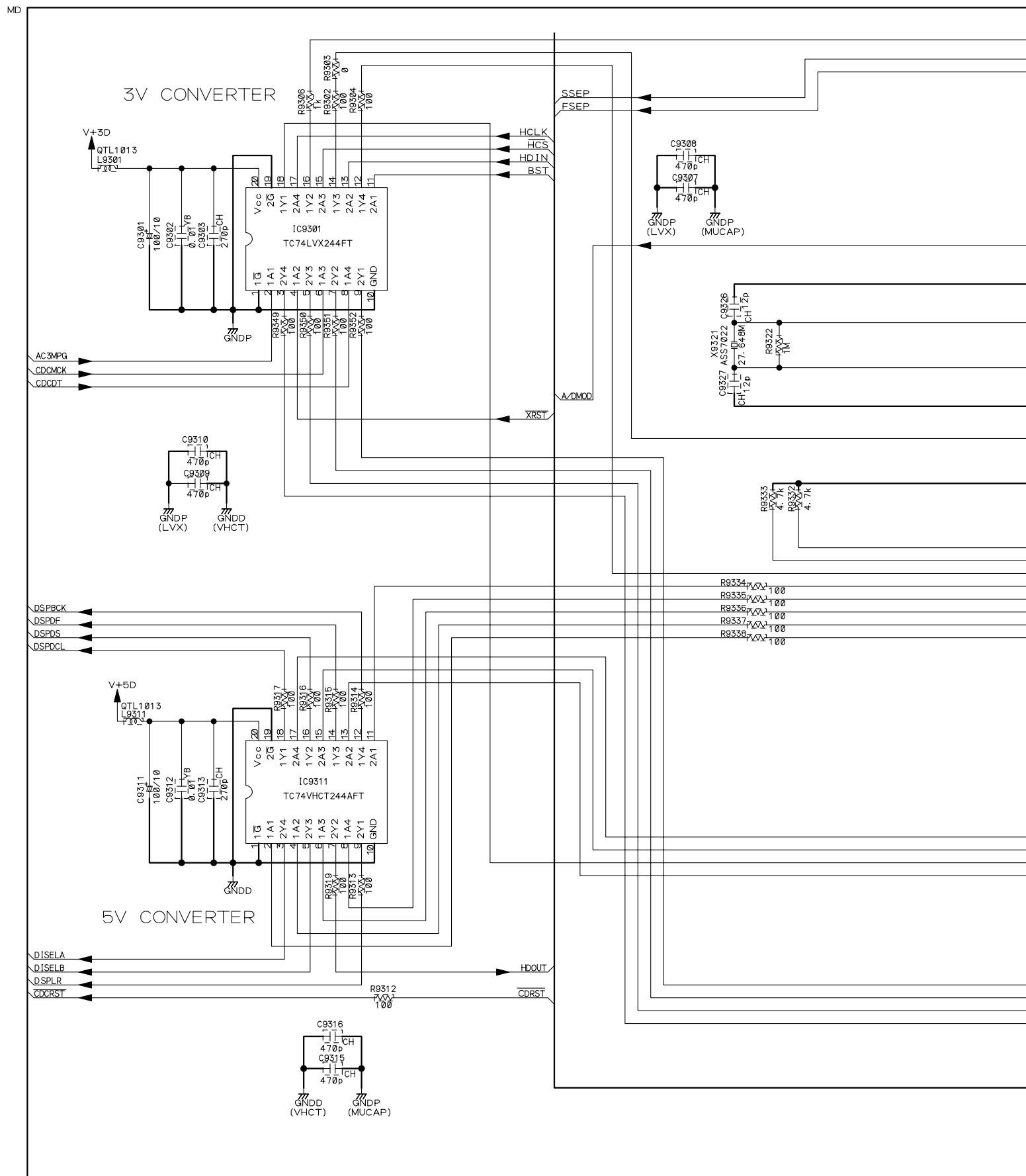
D

- INPUT & CODEC BLOCK



: The power supply is shown with the marked box.

3.10 DOLBY DIGITAL ASSY (2/3)





3.11 DOLBY DIGITAL ASSY (3/3)

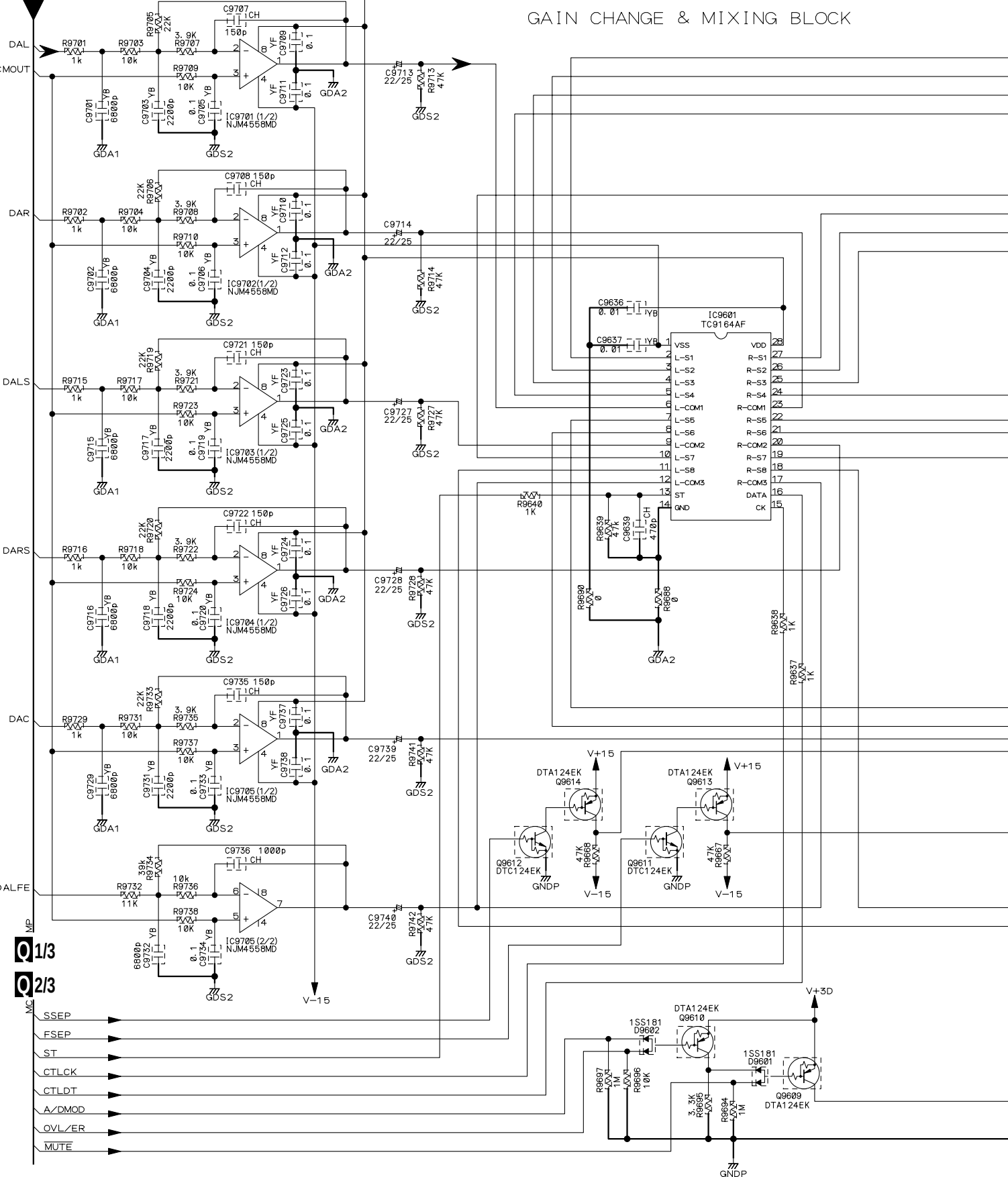
Q1/3

FROM CODEC

FILTER BLOCK

V+15

GAIN CHANGE & MIXING BLOCK



Q3/3

Q3/3 DOLBY DIGITAL ASSY(3/3) (AWX7196)

• FILTER & MUTE BLOCK

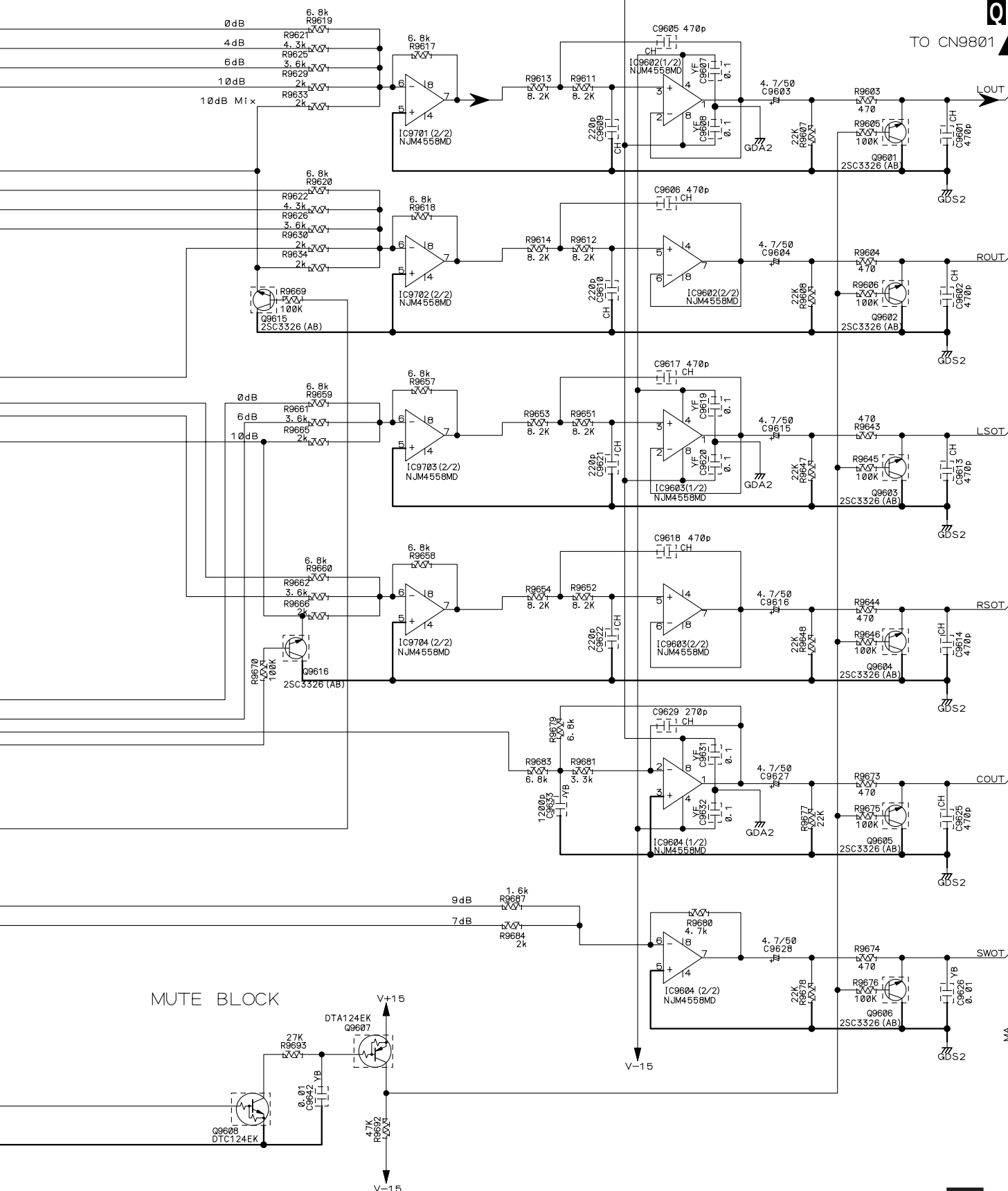
FILTER BLOCK

V+15

➔ : AUDIO SIGNAL ROUTE

TO CN9801

Q1/3



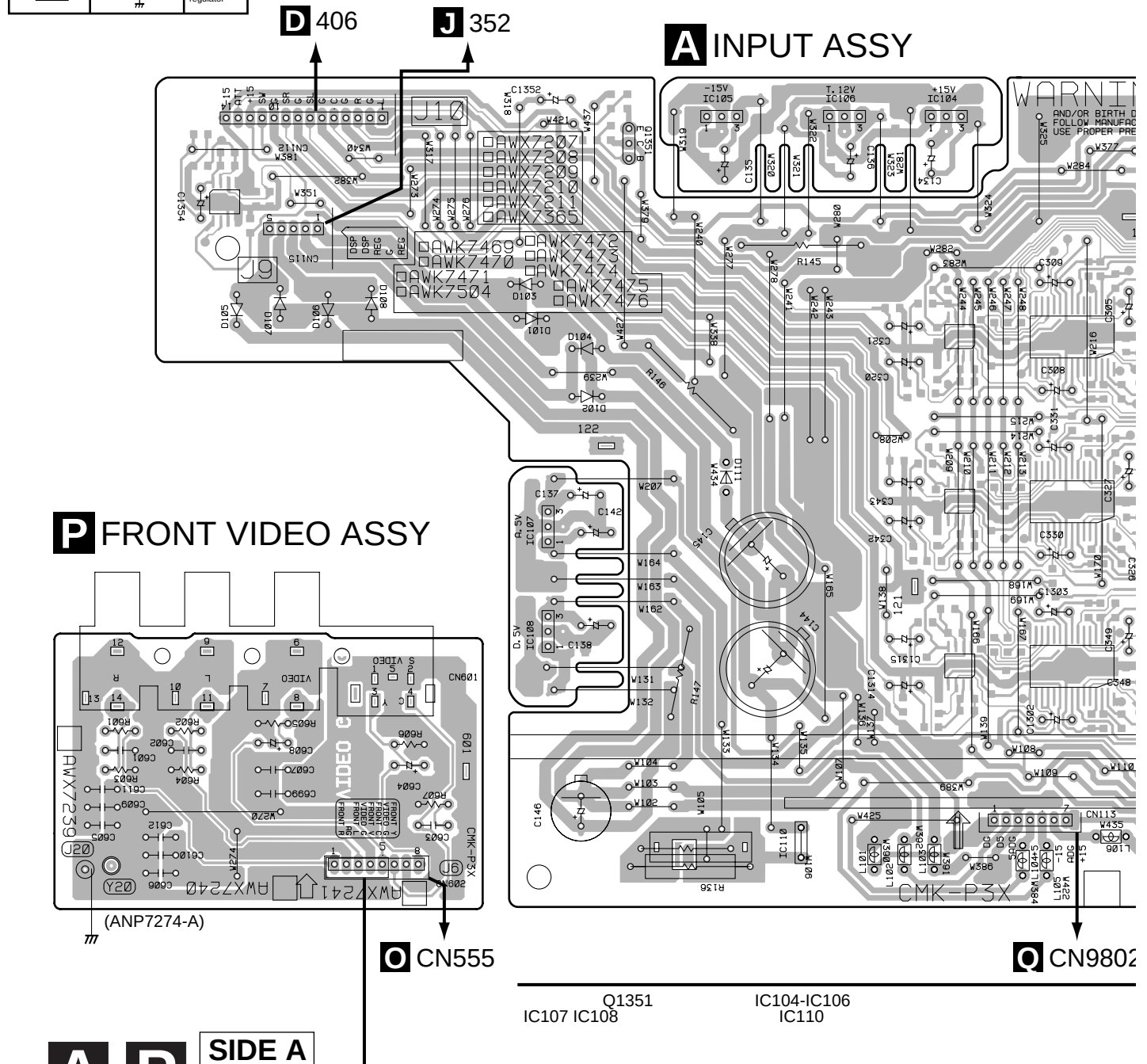
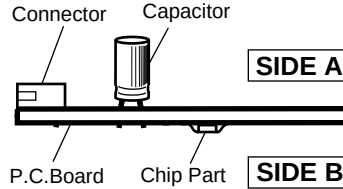
4. PCB CONNECTION DIAGRAM

4.1 INPUT and FRONT VIDEO ASSYS

NOTE FOR PCB DIAGRAMS :

1. Part numbers in PCB diagrams match those in the schematic diagrams.
2. A comparison between the main parts of PCB and schematic diagrams is shown below.
3. The parts mounted on this PCB include all necessary parts for several destinations.
4. View point of PCB diagrams.

Symbol In PCB Diagrams	Symbol In Schematic Diagrams	Part Name
		Transistor
		Transistor with resistor
		Field effect transistor
		Resistor array
		3-terminal regulator



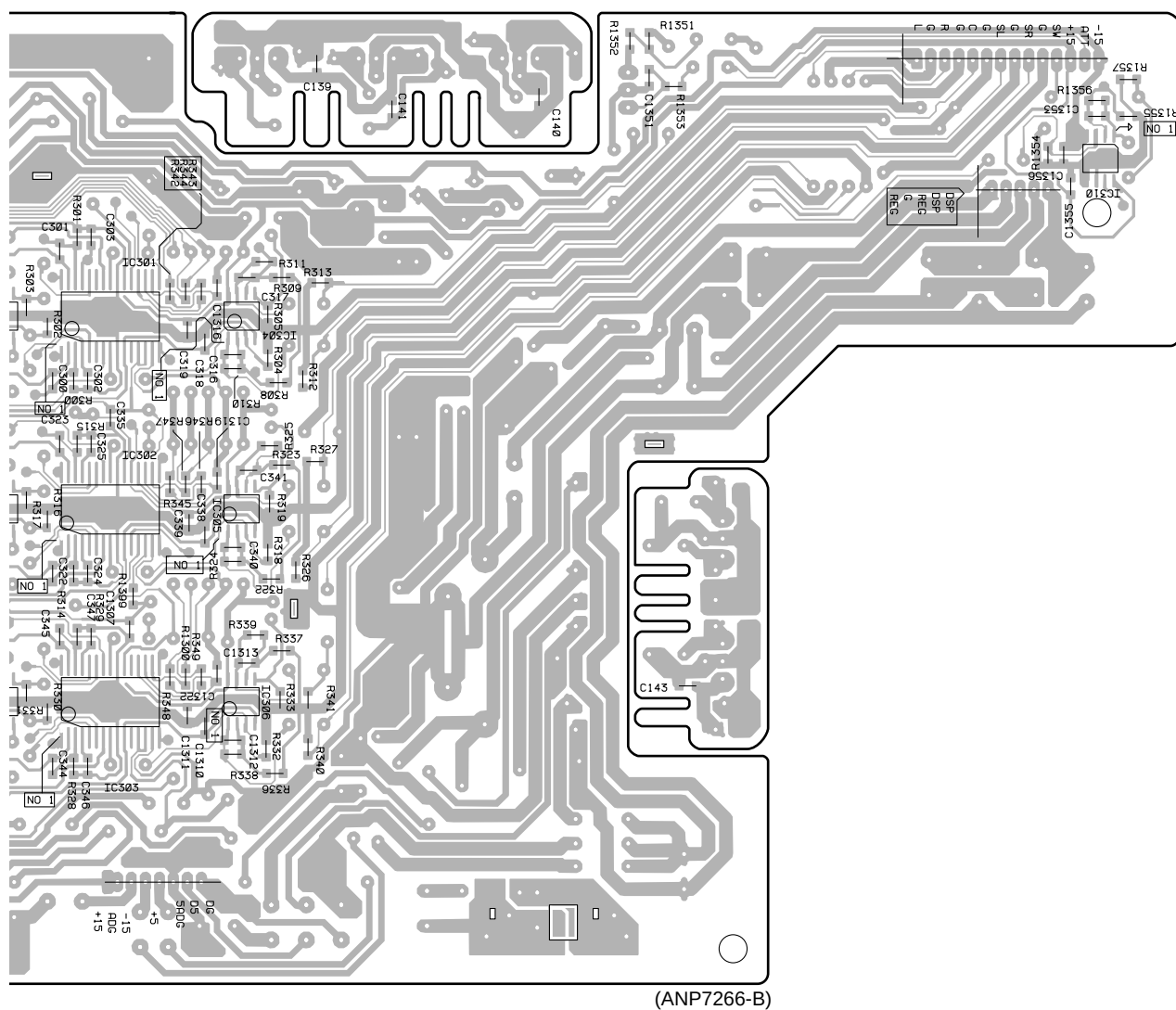


A INPUT ASSY

IC109

IC307-IC309 IC301-

SIDE B



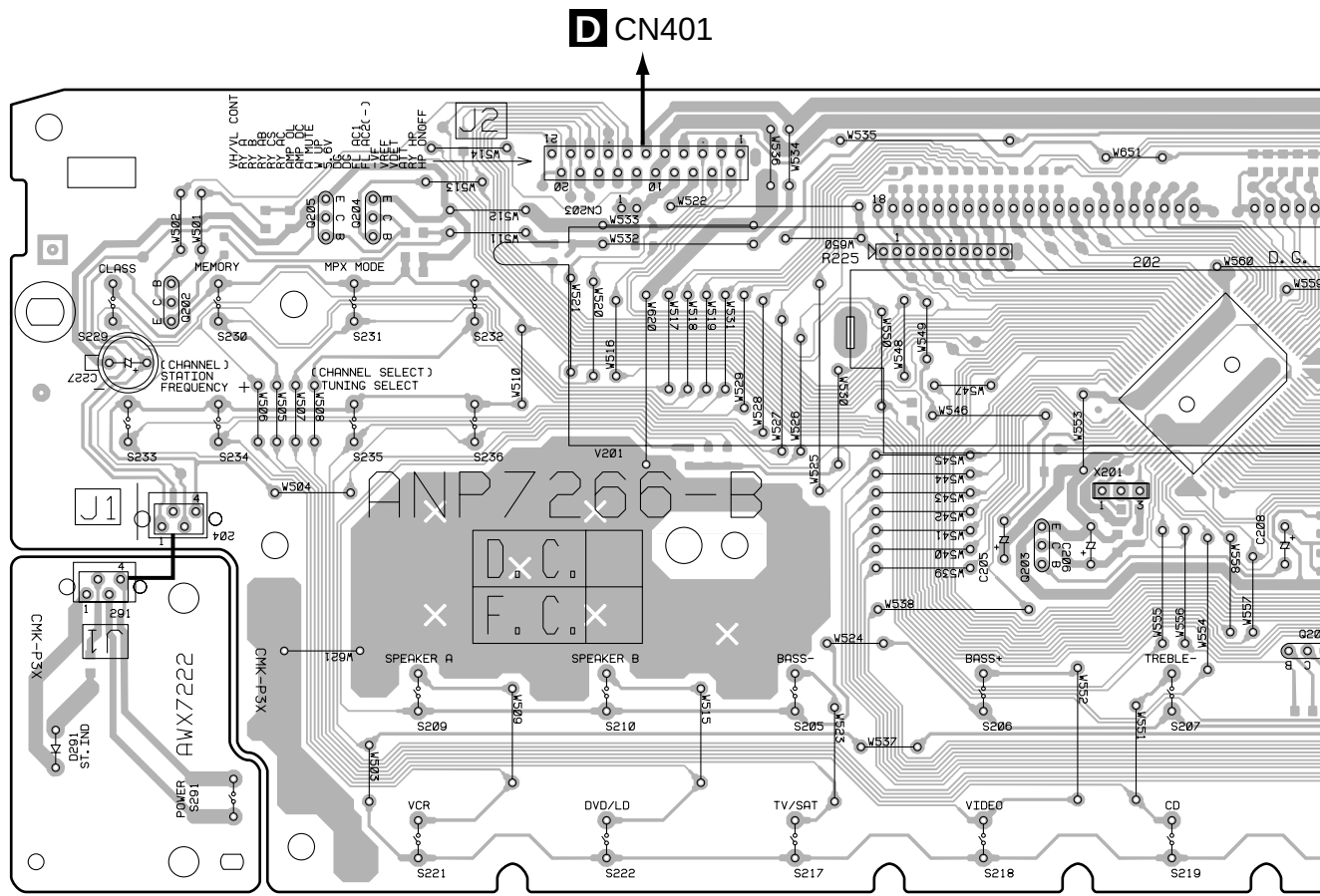
7-IC309 IC301-IC303 IC304-IC306

SIDE B

4.2 FRONT and POWER SW ASSYS

A

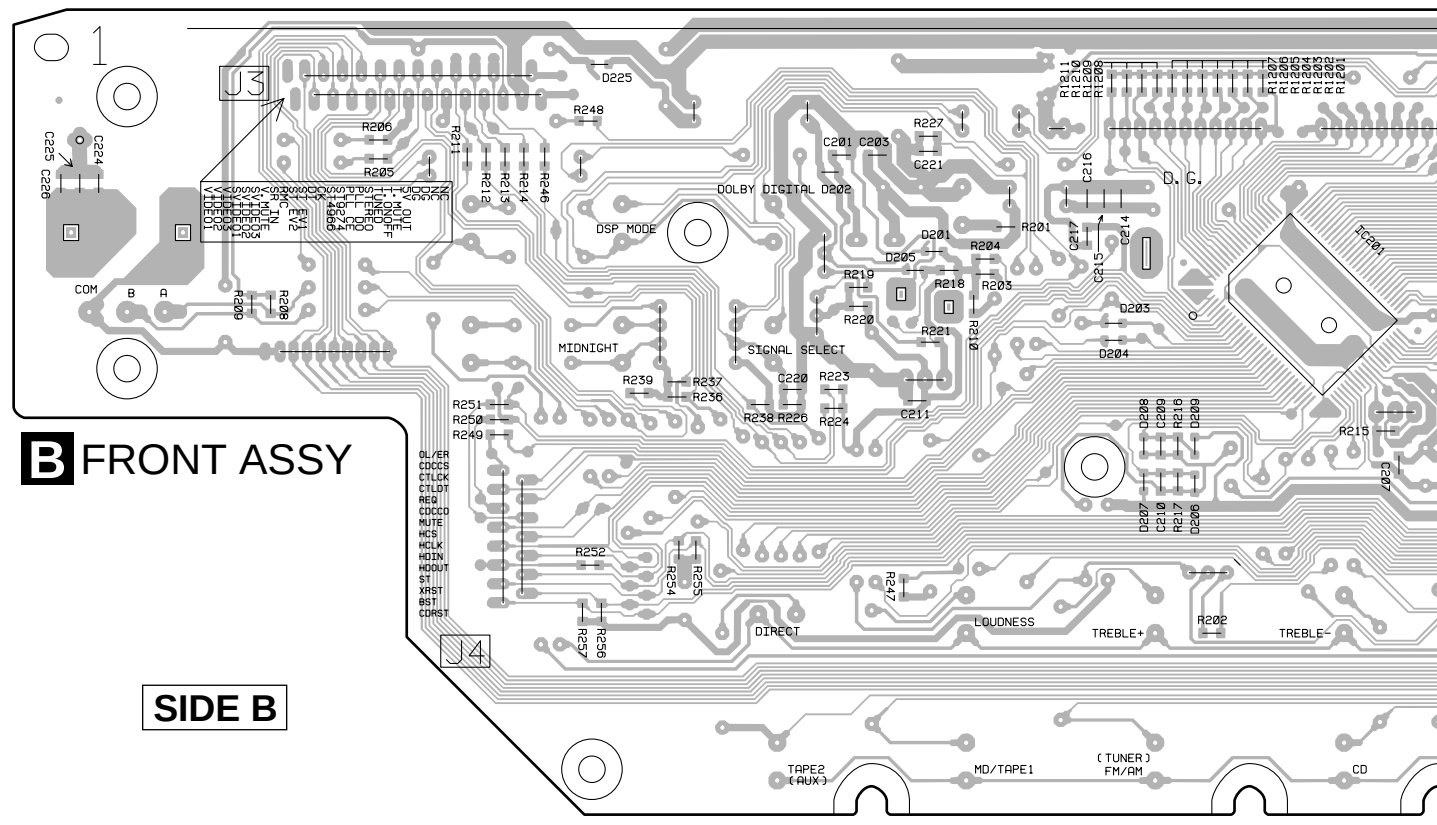
B



C POWER SW ASSY

C

D

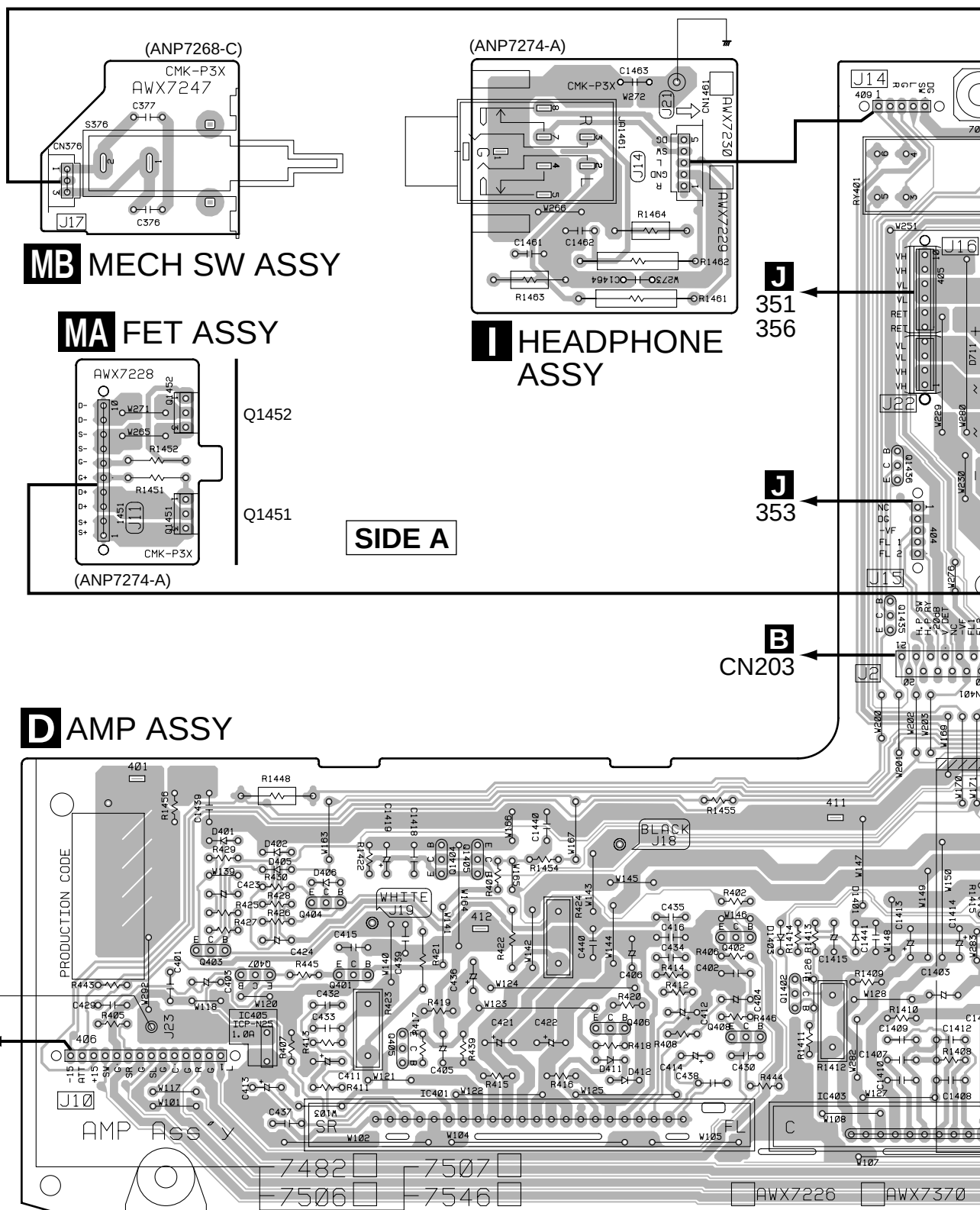


B FRONT ASSY

SIDE B



4.3 AMP, HEADPHONE, FET and MECH SW ASSYS

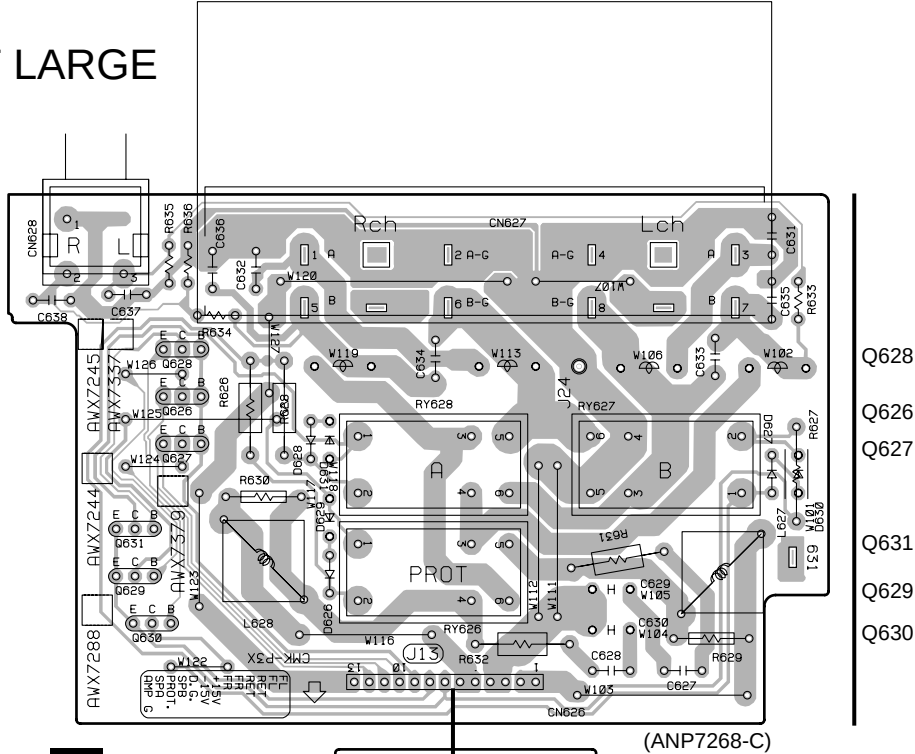




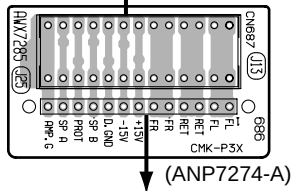
D 35
8

4.4 F.SP.CONNECT, R.C.SP.CONNECT, FRONT LARGE and REAR SP ASSYS

G FRONT LARGE ASSY

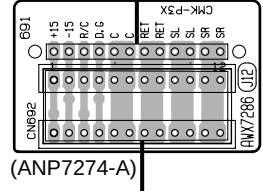
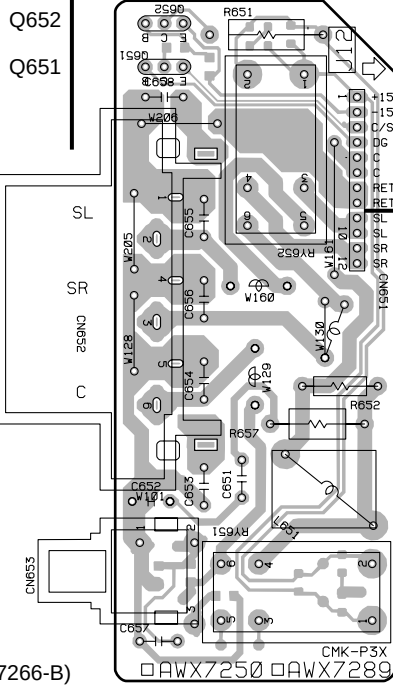
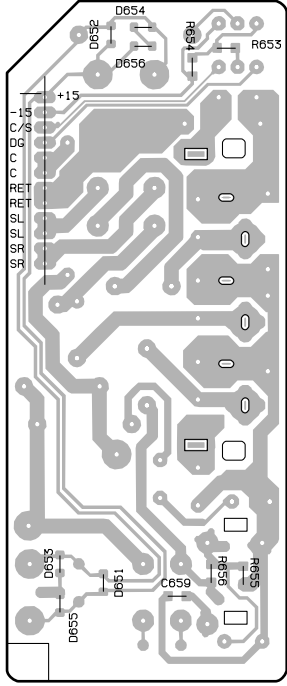


E F.SP. CONNECT ASSY



D 402

D 408



F R.C.SP. CONNECT ASSY

H REAR SP ASSY

H REAR SP ASSY

SIDE B

SIDE A

4.6 DOLBY DIGITAL ASSY

P DOLBY DIGITAL ASSY**B** CN201**A** CN113**A** CN108

IC9701

IC9703

Q9605 Q9606

IC9604

Q9602
Q9604
IC9705 IC9601 IC9602 Q9611
Q9614IC9704 IC9603 Q9608
Q9610
Q9202 IC9201 Q9615
Q9201 IC9702 Q9616

IC9391

Q9402 Q9325
Q9324

Q9401

IC9301 IC9323

IC9401 IC9311

Q9321

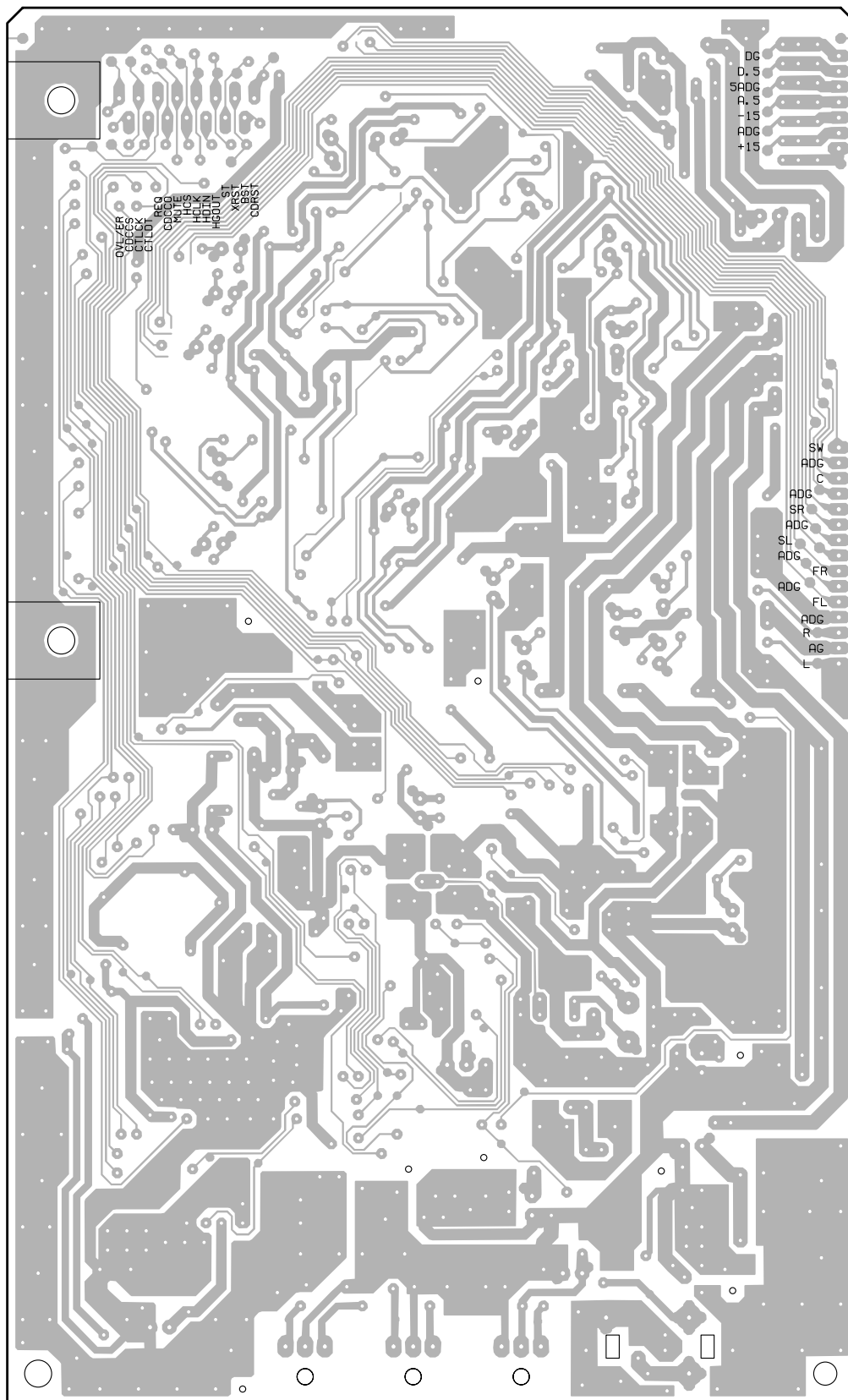
IC9321

IC9101 IC9151

IC9322

(ANP7296-B)

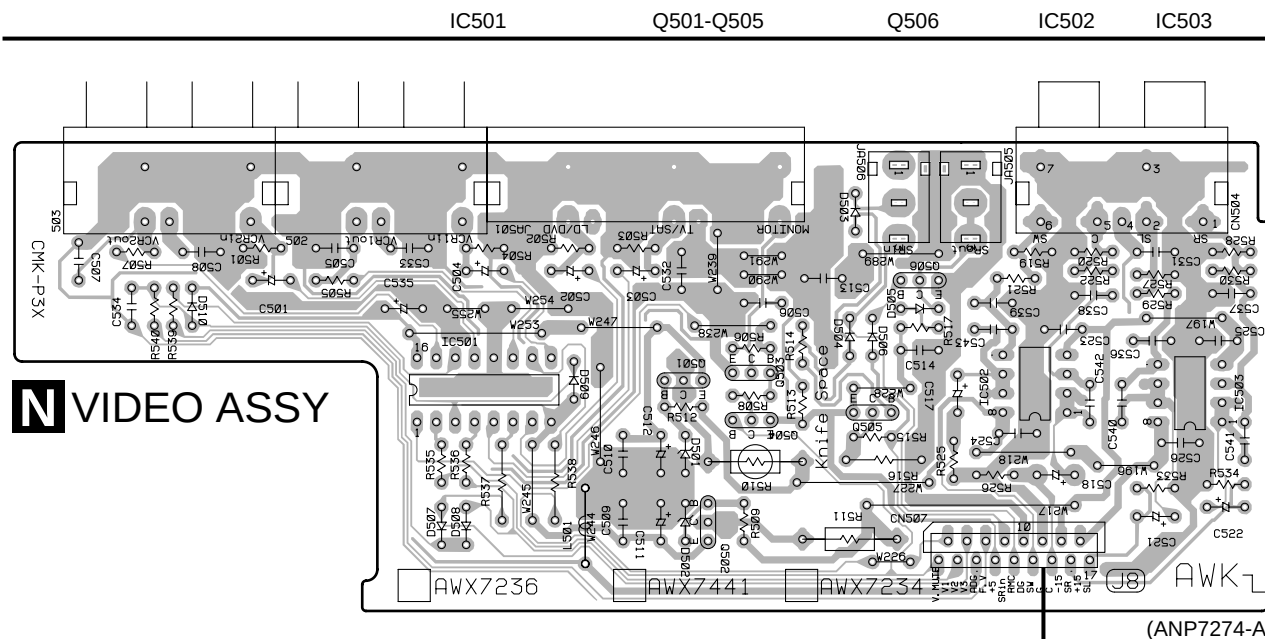
SIDE B



(ANP7296-B)

4.7 VIDEO and SVIDEO ASSYS

A

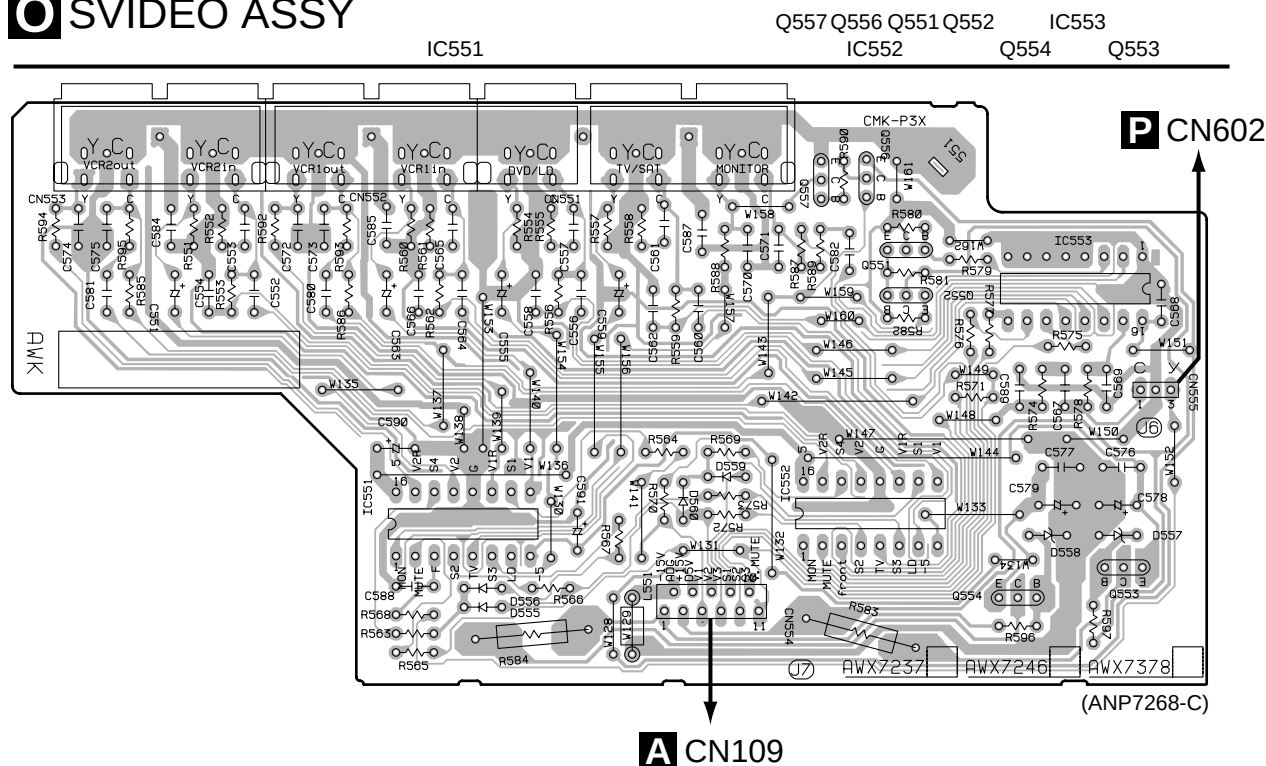


B

C

D

SVIDEO ASSY



SIDE A

5. PCB PARTS LIST

NOTES: ●Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.

●The Δ mark found on some component parts indicates the importance of the safety factor of the part.

Therefore, when replacing, be sure to use parts of identical designation.

●When ordering resistors, first convert resistance values into code form as shown in the following examples.

Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J=5%, and K=10%).

560 Ω $\rightarrow$ 56×10^1 $\rightarrow$ 561 RD1/4PU $\boxed{5} \boxed{6} \boxed{1} J$
 47k Ω $\rightarrow$ 47×10^3 $\rightarrow$ 473 RD1/4PU $\boxed{4} \boxed{7} \boxed{3} J$
 0.5 Ω $\rightarrow$ R50 RN2H $\boxed{R} \boxed{5} \boxed{0} K$
 1 Ω $\rightarrow$ 1R0 RS1P $\boxed{1} \boxed{R} \boxed{0} K$

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62k Ω $\rightarrow$ 562×10^1 $\rightarrow$ 5621 RN1/4PC $\boxed{5} \boxed{6} \boxed{2} \boxed{1} F$

Mark	No.	Description	Part No.	Mark	No.	Description	Part No.
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LIST OF ASSEMBLIES

NSP	INPUT ASSY	AWK7545
NSP	POWER SW ASSY	AWX7222
	REAR SP ASSY	AWX7251
	INPUT ASSY	AWX7438
	FRONT ASSY	AWX7439
NSP	AMP ASSY	AWK7546
NSP	FET ASSY	AWX7228
NSP	HEADPHONE ASSY	AWX7230
NSP	FRONT VIDEO ASSY	AWX7241
	BARRIER ASSY	AWX7284
NSP	F.SP.CONNECT ASSY	AWX7285
NSP	R.C.SP.CONNECT ASSY	AWX7286
	TRANS1 ASSY	AWX7287
	TRANS2 ASSY	AWX7292
	VIDEO ASSY	AWX7441
	AMP ASSY	AWX7446
NSP	EXCELLENT ASSY	AWK7547
	FRONT LARGE ASSY	AWX7245
	MECH SW ASSY	AWX7247
	SVIDEO ASSY	AWX7450
	DOLBY DIGITAL ASSY	AWX7196



INPUT ASSY

SEMICONDUCTORS

IC102, IC103	LC4966
IC301-IC303	LC7536M
IC107, IC108	NJM7805FA
IC104	NJM7815FA
IC105	NJM7915FA
IC101	TC9274N-001
IC109, IC304-IC310	UPC4570G2
Q101	2SC1740S
Q1351	2SC2878
Q103	KRA103M
Q102	KRC103M
D101-D108, D111	S5566G(TPB2)
D110	UDZS5.1B



CAPACITORS

C1314, C1315, C320, C342, C343 (47 μ F/25V)	ACH7110
C146 (3300 μ F/16V)	ACH7111
C144 (3300 μ F/35V)	ACH7112
C145 (2200 μ F/35V)	ACH7113
C101-C118, C123, C124	CCSQCH101J50
C131-C133	CCSQCH101J50
C300, C301, C322, C323	CCSQCH102J50
C344, C345	CCSQCH102J50
C316, C340, C341	CCSQCH121J50
C1316, C1319, C1322	CCSQCH561J50
C1312, C1313	CCSQCH680J50
C1300, C1301, C153, C306, C307	CEAT100M50
C328, C329	CEAT100M50
C137, C138	CEAT101M10
C134, C135	CEAT101M25
C1302, C1303, C305, C308, C309	CEAT1R0M50
C330, C331	CEAT1R0M50
C127, C128	CEAT2R2M50
C321	CEAT470M25
C142	CEAT470M35
C129, C130, C1352, C1354	CEAT4R7M50
C304, C326, C327, C348, C349	CEBA1R0M50
C1351	CKSQYB102K50
C1306, C1307, C1310, C1311	CKSQYB103K50
C1355, C1356, C139, C140, C143	CKSQYB103K50
C148-C151, C154, C155	CKSQYB103K50
C312, C313, C318, C319	CKSQYB103K50
C334, C335, C338, C339	CKSQYB103K50
C1353	CKSQYB222K50
C125, C126	CKSQYB331K50
C302, C303, C324, C325	CKSQYB683K25
C346, C347	CKSQYB683K25

RESISTORS

Δ R146	RS3LMF331J
Δ R145	RS3LMF391J
Other Resistors	RS1/10S□□□□

OTHERS

CN109 11P FFC CONNECTOR	52045-1145
CN110 17P FFC CONNECTOR	52045-1745
CN111 26P FFC CONNECTOR	52045-2645
CN115 5P JUMPER CONNECTOR	52147-0510
CN112 14P JUMPER CONNECTOR	52147-1410

Mark	No.	Description	Part No.
	JA101-JA103	PIN JACK(6P)	AKB7012
	CN105	KR CONNECTOR	B5B-PH-K-S
	CN108	15P PLUG	KM200TA15
	CN113	7P PLUG	KM200TA7
	120-122	PCB BINDER	VEF1040

B FRONT ASSY

SEMICONDUCTORS

IC201	PDG254A
Q201, Q202	2SA933S
Q206, Q207	2SC1740S
Q203-Q205	KRC101M
D201-D221, D224-D226, D229	1SS355

COILS AND FILTERS

L201	LFA2R2J
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SWITCHES AND RELAYS

S201, S202, S205-S214	ASG1034
S217-S224, S233-S235	ASG1034
S250	ASX7004

CAPACITORS

C204	ACH7017
C220-C222	CCSQCH101J50
C217	CCSQCH102J50
C206, C208	CEAT2R2M50
C212	CEAT470M25
C205	CEAT470M50
C202	CEAT471M6R3
C227	CEJA221M6R3
C201, C203, C211	CKSQYB103K50
C214-C216	CKSQYB104K25
C209, C210	CKSQYB473K50
C207	CKSQYF104Z25

RESISTORS

R230	RA8T103J
R225	RA9T104J
Other Resistors	RS1/10S□□□J

OTHERS

201	REMOTE RECEIVER UNIT	GP1U27X
204	4P CABLE HOLDER	51063-0405
CN201	15P FFC CONNECTOR	52044-1545
CN203	21P FFC CONNECTOR	52045-2145
CN202	26P FFC CONNECTOR	52045-2645
V201	FL TUBE	AAV7062
X201	CERAMIC RESONATOR (7.7MHz)	ASS1055

C POWER SW ASSY

SEMICONDUCTORS

D291	BR3371XJ30A
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SWITCHES AND RELAYS

S291	ASG1034
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RESISTORS

All Resistors	RS1/10S□□□J
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Mark	No.	Description	Part No.
	291	4P CABLE HOLDER	51063-0405

D AMP ASSY

SEMICONDUCTORS

△ △ △ △	IC404, IC405	ICP-N25
	IC701	NJM78M56FA
	IC401, IC402	PAC007A
	IC403	PAC008A
	Q712	2SA992

Q1404, Q1405	2SC1740S
Q711	2SC1845
Q1402, Q403, Q404, Q453, Q454	2SC2240
Q405, Q406, Q455, Q456	2SC2705
Q1403, Q1434, Q407, Q408	2SC2878

Q457, Q458	2SC2878
Q1436, Q714	KRA103M
Q1435, Q701	KRC101M
Q713	KRC103M
D1401, D1403, D1435, D1436	1SS133

D401, D402, D405, D406	1SS133
D411, D412, D451, D452	1SS133
D455, D456, D461, D462	1SS133
D703-D705	1SS133
D711, D712, D717	D5SBA20(B)



D713, D714	MTZJ18B
D701	MTZJ5.1A
D702	S1WB20

COILS AND FILTERS

△ △	L701	LINE FILTER	ATF-151
	L1432, L1433	AF CHOKE COIL	ATH1004

SWITCHES AND RELAYS

△ △	RY401	ASR7001
	RY701	ASR7016

CAPACITORS

△	C704, C705 (10000pF/AC250V)	ACG7020
	C715, C716 (8200μF/71V)	ACH7018
	C1408, C1410	CCCSL101K2H
	C1411, C1442, C415, C416	CCCSL221J50
	C465, C466	CCCSL221J50

C1441, C439, C442-C444	CCCSL221K2H
C1420, C1421	CCCSL390J50
C437, C438, C479, C480	CCCSL470J50
C1403, C1404, C405, C406	CEANP2R2M2A
C455, C456	CEANP2R2M2A

C1415, C423, C424, C473, C474	CEANP2R2M50
C1402, C403, C404, C453, C454	CEANP4R7M50
C413, C414, C463, C464	CEAT100M50
C436, C486	CEAT101M10
C1405, C411, C412, C461, C462	CEAT101M25

C713, C714	CEAT101M2A
C702	CEAT102M25
C490, C717, C718	CEAT1R0M50
C1419	CEAT221M10
C701	CEAT470M25

Mark	No.	Description	Part No.
		C1413, C1414, C421, C422 C471, C472 C1432, C1433, C1436, C1437 C1417, C1418, C429, C430 C477, C478	CEAT4R7M2A CEAT4R7M2A CFTYA224J50 CKCYB102K50 CKCYB102K50
		C1401, C401, C402, C451, C452 C1412 C1407, C1409 C1439, C703, C706, C707 C1438	CKCYB331K50 CKCYB471K2H CKCYB471K50 CKCYF103Z50 CKPUYB331K50
		C711, C712	CQMA103K2E

RESISTORS

	R1412, R423, R424, R473, R474 (0.22Ω, 5W)	ACN7094
	R703	RD1/2PM270J
	R1409, R1410, R415, R416	RD1/4MUF331J
	R465, R466	RD1/4MUF331J
	R419, R420, R469, R470	RD1/4MUF820J
	R1432, R1433	RD1/4PMF4R7J
	R1436, R1437	RS1LMF4R7J
	R1448	RS1LMF561J
	Other Resistors	RD1/4PU□□□J

OTHERS

410	3P CABLE HOLDER	51048-0300
404, 409	5P CABLE HOLDER	51048-0500
408	12P CABLE HOLDER	51048-1200
402	13P CABLE HOLDER	51048-1300
405, 407	10P CABLE HOLDER	51052-1000
CN401	21P FFC CONNECTOR	52045-2145
JA413	1P PIN JACK	AKB7111
H701, H702	FUSE CLIP	AKR1004
T701	POWER TRANSFORMER	ATT7037
J17	JUMPER WIRE 3P	D20PYY0325E
J14	JUMPER WIRE 5P	D20PYY0520E
J10	JUMPER WIRE 14P	D20PYY1415E
J18	BOARD IN WIRE	DB020ND0
CN701	AC CORD SOKET	RKP1751
401, 403, 411, 412	PCB BINDER	VEF1040
704	GROUND PLATE	VNF-091

E F.SP.CONNECT ASSY**OTHERS**

686	13P CABLE HOLDER	51048-1300
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F R.C.SP.CONNECT ASSY**OTHERS**

691	12P CABLE HOLDER	51048-1200
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G FRONT LARGE ASSY**SEMICONDUCTORS**

Q626–Q628	KRA103M
Q629–Q631	KRC101M
D626–D631	1SS133

Mark	No.	Description	Part No.
		COILS AND FILTERS L627, L628 AF CHOKE COIL	ATH1004
		SWITCHES AND RELAYS RY626–RY628	ASR7001
		CAPACITORS C627–C630 C631–C636	CFTYA224J50 CQMA103K2E

RESISTORS

	R629, R630	RD1/4LMF4R7J
	R631, R632	RS1LMF4R7J
	R626–R628	RS1LMF561J

OTHERS

627	8P SPEAKER TERMINAL	AKE7026
CN626	13P PLUG	AKM7006

H REAR SP ASSY**SEMICONDUCTORS**

Q652	2SC1740S
Q651	KRA101M
D653–D656	1SS355

COILS AND FILTERS

L651	AF CHOKE COIL	ATH1004
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SWITCHES AND RELAYS

	RY651, RY652	ASR7001
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CAPACITORS

C651, C652	CFTYA224J50
C653	CGCYX103M16
C654–C656	CQMA103K2E

RESISTORS

	R652	RD1/4LMF4R7J
	R657	RS1LMF4R7J
	R651	RS2LMF271J
	Other Resistors	RS1/10S□□□J

OTHERS

JA653	1P PIN JACK	AKB7111
CN652	SPEAKER TERMINAL 6P	AKE7042
CN651	12P PLUG	AKM7007

I HEADPHONE ASSY**CAPACITORS**

C1461, C1462	CKCYB392K50
C1464	CKPUYB101K50

RESISTORS

	R1463, R1464	RS1LMF681J
	R1461, R1462	RS3LMF331J

OTHERS

JA1461	HEADPHONE JACK	RKB1014
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VSA-E03

Mark	No.	Description	Part No.
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J TRANS2 ASSY

SEMICONDUCTORS

	IC351, IC352 (5A)	AEK7019
	IC353 (2.5A)	ICP-N70
	D356	MTZJ20A
	D357	MTZJ9.1B
	D354, D355	S5688G

CAPACITORS

C350–C354, C360, C361 (1μF/100V)	ACH1237
C362	CEANP470M25
C359	CEAT101M10
C358	CEAT101M35
C357	CEAT470M50

RESISTORS

	R350–R352	RD1/4PMF100J
	R353	RFA1/4PS4R7J
	R358	RS1LMF182J
	Other Resistors	RD1/4PU□□□J

OTHERS

352, 353	5P CABLE HOLDER	51048-0500
356	4P CABLE HOLDER	51052-0400
351	6P CABLE HOLDER	51052-0600
J9	JUMPER WIRE 5P	D20PYY0545E
CN354, CN355	4P PLUG	KM200TA4
357, 358	PCB BINDER	VEF1040

K TRANS1 ASSY

OTHERS

J51	LEAD WIRE UNIT	DB035NB0
J52	LEAD WIRE UNIT	DB135NB0

L BARRIER ASSY

OTHERS

CN681, CN682	4P SOCKET	KP200TA4L
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MA FET ASSY

SEMICONDUCTORS

	Q1452	IRF540A
	Q1451	IRF9540A

RESISTORS

	R1451, R1452	RD1/4PMF101J
	Other Resistors	RD1/4PM□□□J

OTHERS

1451	10P CABLE HOLDER	51052-1000
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MB MECH SW ASSY

SWITCHES AND RELAYS

S376		ASG7014
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Mark	No.	Description	Part No.
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CAPACITORS

C376, C377	CKCYF103Z50
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OTHERS

CN376	3P JUMPER HOLDER	52151-0310
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N VIDEO ASSY

SEMICONDUCTORS

IC501	NJM2296D
IC502, IC503	UPC4570C
Q502	2SA1515
Q505	2SA933S
Q501	2SC3377

Q506	KRC103M
D503, D505–D510	1SS133
D501, D502	MTZJ6.2B

CAPACITORS

C540–C543	CCCSL101J50
C505–C507, C536–C539	CCCSL221J50
C501–C504, C511, C512, C535	CEAT470M25
C517, C518, C521, C522	CEAT4R7M50
C545, C546	CEHAT470M25

C509, C510	CGCYX473M25
C513, C514, C523–C526	CKCYF103Z50
C531–C533	CKCYF103Z50

RESISTORS

	R510, R511	RS1LMF151J
	Other Resistors	RD1/4PU□□□J

OTHERS

CN507	17P FFC CONNECTOR	52045-1745
502	2P PIN JACK	AKB7017
JA501	3P PIN JACK	AKB7056
CN504	4P PIN JACK	AKB7087
JA505, JA506	REMOTE CONTROL JACK	RKN1004

O SVIDEO ASSY

SEMICONDUCTORS

IC551, IC552	NJM2296D
Q554	2SA1515
Q551	2SA933S
Q552	2SC1740S
Q553	2SC3377

D555, D556, D559, D560	1SS133
D557, D558	MTZJ6.2B

CAPACITORS

C570–C575	CCCSL221J50
C578, C579	CEAT470M10
C551, C555, C559, C563	CEAT470M25
C590, C591	CEAT470M25
C593, C594	CEHAT470M25

C552, C556, C560, C564, C567	CGCYX104M16
C580–C582	CGCYX104M16
C553, C557, C561, C565	CGCYX473M16
C576, C577	CGCYX473M16
C585, C587	CKCYF103Z50

Mark	No.	Description	Part No.
	C554, C558, C562, C566 C568, C569		CKPUYY103M16 CKPUYY103M16

RESISTORS

	R583, R584 Other Resistors	RS2LMF101J RD1/4PU□□□J
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OTHERS

CN554	11P FFC CONNECTOR	52044-1145
CN552	4P MINI DIN SOCKET	AKP7020
CN551	4P MINI DIN SOCKET	AKP7043
CN555	KR CONNECTOR 3P	B3B-PH-K-S

**FRONT VIDEO ASSY****CAPACITORS**

C601, C602 C604, C608 C605–C607 C603 C609, C610	CCCSL221J50 CEAT470M25 CGCYX104M25 CGCYX473M25 CKCYB471K50
C611, C612	CKCYF103Z50

RESISTORS

All Resistors	RD1/4PU□□□J
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OTHERS

CN601 601	FRONT PIN JACK PCB BINDER	AKX7007 VEF1040
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**DOLBY DIGITAL ASSY****SEMICONDUCTORS**

IC9401 IC9322 IC9321 IC9201 IC9602–IC9604, IC9701–IC9705	CS4226-KQ CY62256VLL-70SNC MB86342B NJM2100M NJM4558MD
 IC9391 IC9151 IC9101 IC9301 IC9311	PQ20WZ51 TC74ACT151F TC74HCU04AF TC74LVX244FT TC74VHCT244AFT
IC9601 Q9201, Q9202, Q9601–Q9606 Q9615, Q9616 Q9203, Q9325, Q9402, Q9607 Q9609, Q9610, Q9613, Q9614	TC9164AF 2SC3326 2SC3326 DTA124EK DTA124EK
Q9204, Q9321, Q9322, Q9324, Q9401 Q9608, Q9611, Q9612 D9601, D9602	DTC124EK DTC124EK 1SS181

COILS AND FILTERS

 L9321, L9391, L9807, L9809 CHIP FERRITE BEAD	ATL7002
L9101, L9102, L9151, L9301, L9311 CHIP SOLID INDUCTOR	QTL1013
L9323, L9402, L9403, L9801–L9805 CHIP SOLID INDUCTOR	QTL1013

Mark	No.	Description	Part No.
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CAPACITORS

C9159, C9201, C9202, C9324, C9329 C9331, C9334, C9336, C9338, C9342 C9420, C9736 C9326, C9327 C9377, C9707, C9708, C9721, C9722	CCSRCH101J50 CCSRCH101J50 CCSRCH102J50 CCSRCH120J50 CCSRCH151J50
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C9735 C9408, C9409 C9323, C9369, C9370, C9609, C9610 C9621, C9622 C9108, C9154, C9303, C9313, C9413	CCSRCH151J50 CCSRCH180J50 CCSRCH221J50 CCSRCH221J50 CCSRCH271J50
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C9629 C9428, C9429 C9418, C9419 C9307–C9310, C9315, C9316, C9368 C9405, C9414, C9422–C9426, C9431	CCSRCH271J50 CCSRCH331J50 CCSRCH390J50 CCSRCH471J50 CCSRCH471J50
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C9601, C9602, C9605, C9606 C9613, C9614, C9617, C9618, C9625 C9639 C9104 C9105, C9109, C9151, C9301, C9311	CCSRCH471J50 CCSRCH471J50 CCSRCH471J50 CCSRCH560J50 CEJA101M10
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C9340, C9393, C9401, C9402, C9415 C9801 C9410 C9803, C9805 C9207, C9321	CEJA101M10 CEJA101M10 CEJA1R0M50 CEJA220M25 CEJA221M6R3
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C9391 C9205, C9206 C9433 C9713, C9714, C9727, C9728 C9739, C9740	CEJA4R7M50 CEJANP100M10 CEJAR47M50 CEWAR220M25 CEWAR220M25
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C9203, C9204, C9603, C9604 C9615, C9616, C9627, C9628 C9407 C9101, C9107, C9153, C9302, C9312 C9626, C9636, C9637, C9642	CEWAR4R7M50 CEWAR4R7M50 CKSQYB224K16 CKSRYB103K50 CKSRYB103K50
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C9158, C9705, C9706, C9719, C9720 C9733, C9734 C9633 C9703, C9704, C9717, C9718, C9731 C9406	CKSRYB104K16 CKSRYB104K16 CKSRYB122K50 CKSRYB222K50 CKSRYB223K50
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C9701, C9702, C9715, C9716, C9729 C9732 C9102, C9115, C9116, C9119 C9208, C9209, C9325, C9330, C9332 C9335, C9337, C9339, C9341, C9404	CKSRYB682K50 CKSRYB682K50 CKSRYF104Z16 CKSRYF104Z16 CKSRYF104Z16
--	--

C9421, C9427, C9432, C9607, C9608 C9619, C9620, C9631, C9632 C9709–C9712, C9723–C9726 C9737, C9738, C9807	CKSRYF104Z16 CKSRYF104Z16 CKSRYF104Z16 CKSRYF104Z16
--	--

RESISTORS

R9393 R9391 Other Resistors	RS1/16S2001F RS1/16S5600F RS1/16S□□□J
-----------------------------------	---

Mark	No.	Description	Part No.
OTHERS			
CN9371	15P CONNECTOR	52044-1545	
JA9103, JA9104		GP1F32R	
	OPTICAL RECEIVE MODULE		
JA9107	OPTICAL SEND MODULE	GP1F32T	
CN9801	15P SOCKET	KP200TA15L	
CN9802	7P SOCKET	KP200TA7L	
JA9101	1P PIN JACK	VKB1077	
X9321	CRYSTAL RESONATOR	ASS7022	
	(27.648MHz)		
X9401	CERAMIC RESONATOR	RSS1052	
	(18.432MHz)		

6. ADJUSTMENT

There is no information to be shown in this chapter.

7. GENERAL INFORMATION

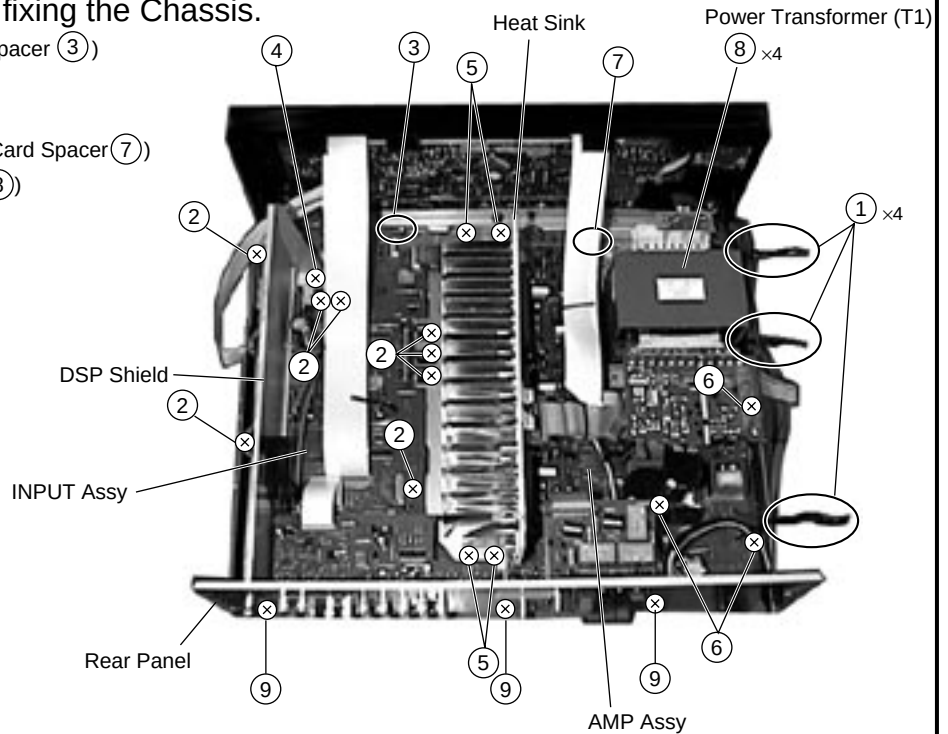
7.1 DISASSEMBLY

1 Remove the Bonnet. (seven screws)

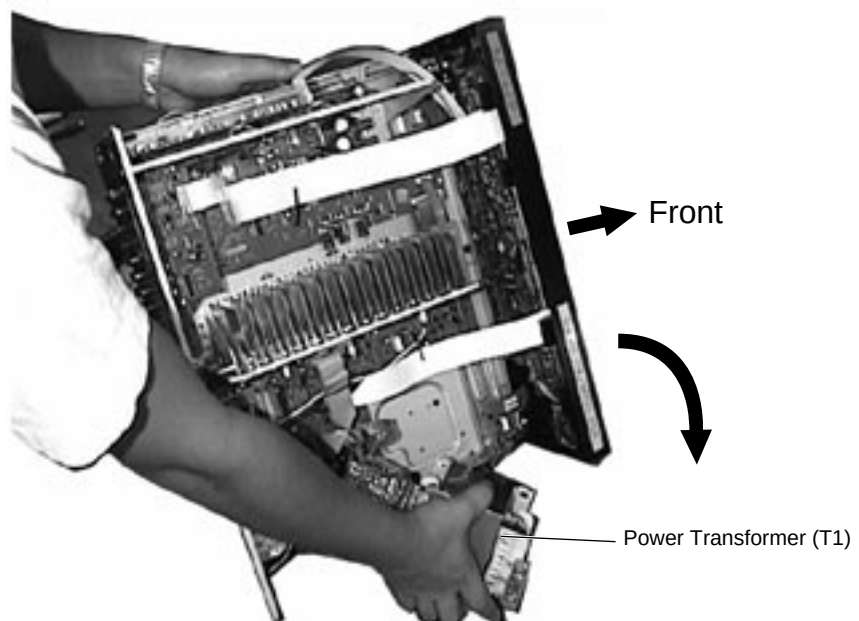
2 Release three binders (①) from the Power Transformer (T1).

3 Remove all screws which fixing the Chassis.

- INPUT Assy (eight screws ②, Card Spacer ③)
- DSP Shield (screw ④)
- Heat Sink (four screws ⑤)
- AMP Assy (three screws ⑥, Locking Card Spacer ⑦)
- Power Transformer (T1) (four screws ⑧)
- Rear Panel (three screws ⑨)

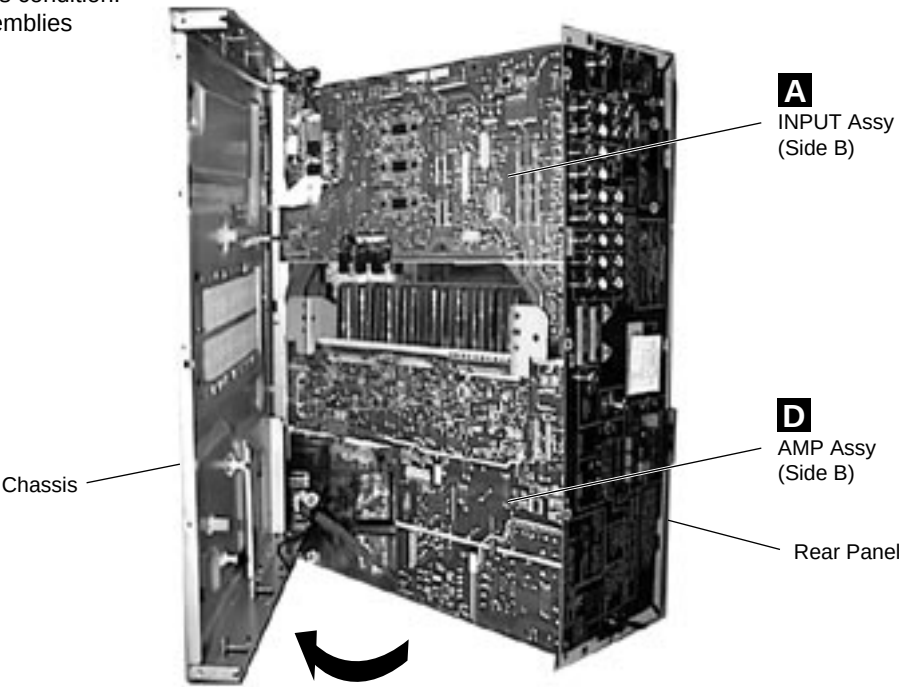


4 Put the Power Transformer on the bottom side, and stand the component sideways.

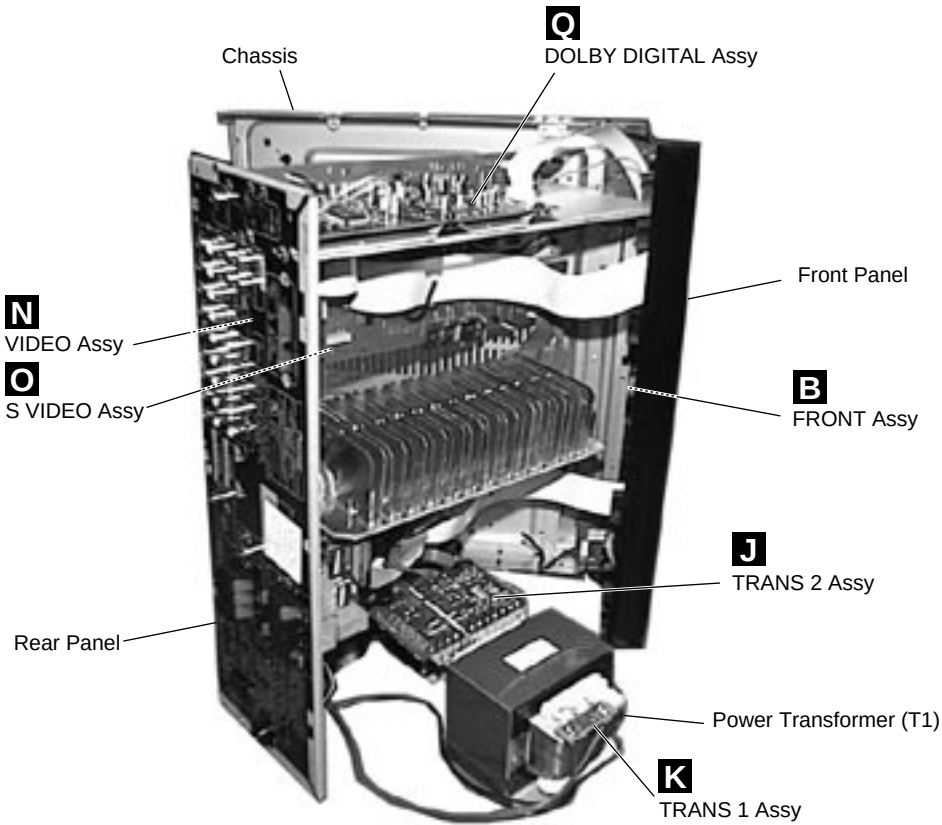


5 Open the Chassis and Rear Panel

It can be diagnosed under this condition.
Show the principal PCB Assemblies
in the illustration.



Rear View



Top View

7.2 PARTS

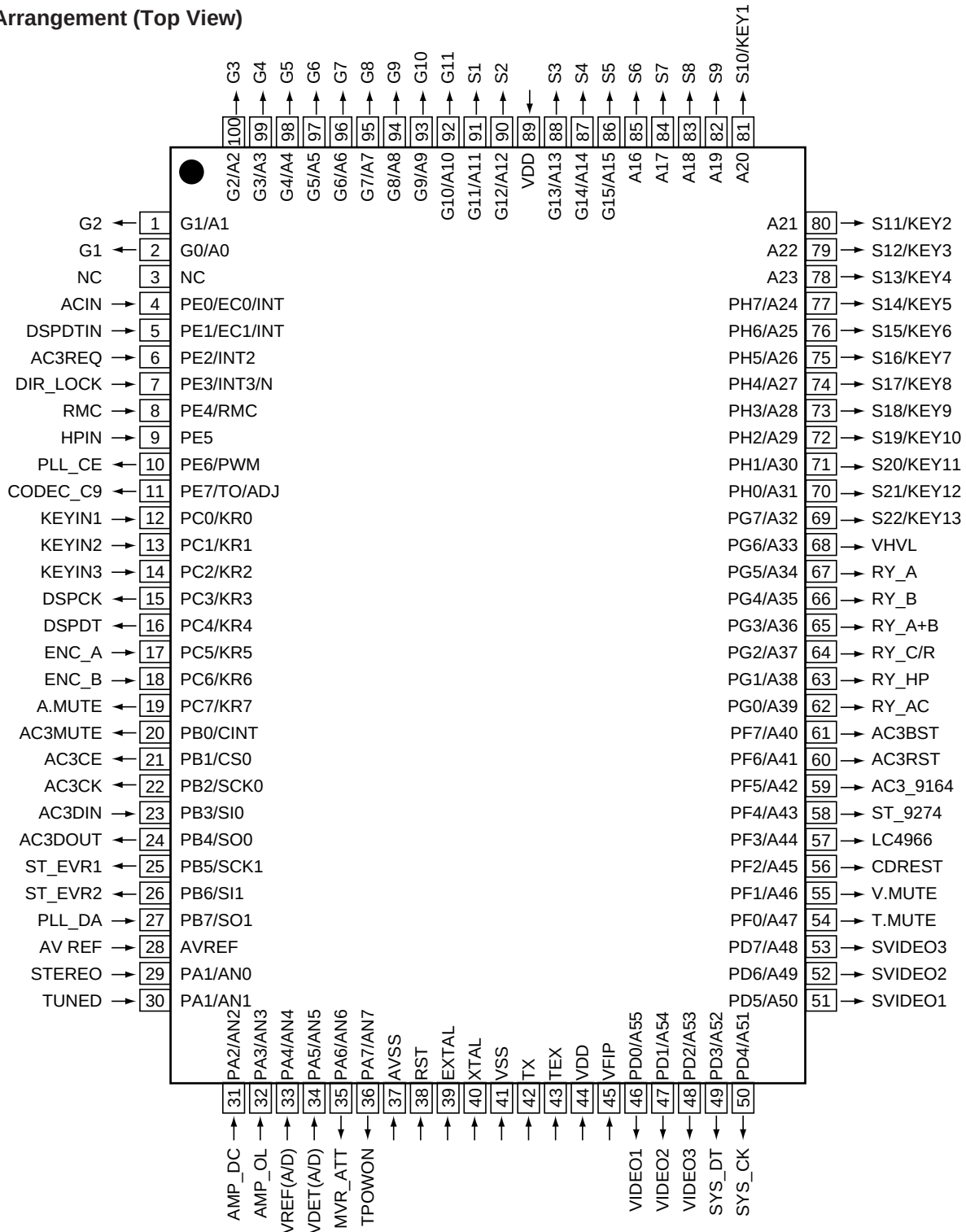
7.2.1 IC

- The information shown in the list is basic information and may not correspond exactly to that shown in the schematic diagrams.

■ PDG254A (FRONT ASSY : IC201)

- **System Control Microcomputer**

●Pin Arrangement (Top View)



●Pin Function

No.	Pin Name	I/O	Pin Function	Active
1	G2	O	Grid output 2	H
2	G1	O	Grid output 1	H
3	NC	–	Connect to VDD	
4	ACIN	I	AC pulse input	
5	DSPDTIN	I	Data input from CS4226-KQ	
6	AC3REQ	I	Data request from MUCAP	
7	DIRLOCK	I	Digital mode : DIR lock/unlock (L : Lock) Analog mode : DSP over-load detection (H : Detection)	
8	RMC	I	Remote control signal input (no-carrier signal)	
9	HPIN	I	Headphone connection detection (H : connect)	
10	PLL_CE	O	Chip select signal for communication with LC72131 (tuner)	H
11	CODEC_CS	O	CS4226-KQ chip select	L
12	KEYIN1	I	Key scan input 1	
13	KEYIN2	I	Key scan input 2	
14	KEYIN3	I	Key scan input 3	
15	DSPCK	O	Clock line for communication with CS4226-KQ and TC9164AF	H
16	DSPDT	O	Data line for communication with CS4226-KQ and TC9164AF	H
17	ENC_A	I	Rotary encoder signal input A	
18	ENC_B	I	Rotary encoder signal input B	
19	AMUTE	O	Audio mute	L
20	AC3MUTE	O	MUCAP mute	H
21	AC3CE	O	Chip select for communication with MUCAP	L
22	AC3CK	O	Clock line for communication with MUCAPMUCAP	H
23	AC3DIN	I	Data reception line from MUCAP	
24	AC3DOUT	O	Data line for communication with MUCAP	H
25	ST_EVR1	O	Strobe 1 for electric volume LC7535M	H
26	ST_EVR2	O	Strobe 2 for electric volume LC7535M	H
27	PLL_DA	O	Data output signal for communication with LC72131 (tuner)	H
28	AVref	–	Connect to VDD	
29	STEREO	I	Stereo/Monoral signal judgment signal	
30	TUNED	I	TUNED information	
31	AMP_DC	I	DC abnormality detection of protection circuit (L : Abnormality detection)	
32	AMP_OL	I	Over-load detection of protection circuit (L : Abnormality detection)	
33	VREF	I	Reference value (A/D) for detecting the AMP input signal level for VH/VL switch	
34	VDET	I	AMP input signal level detection (A/D) for VH/VL switch	
35	MVR_ATT	O	ATT control of master volume (L : Less than -20dB)	L
36	TPOWON	O	Tuner module ON/OFF	H
37	AVSS	–	Connect to VSS	
38	RST	–	Reset	
39	EXTAL	–	Connect to the oscillator (7.7MHz)	
40	XTAL	–		
41	VSS	–	Connect to VSS	
42	TX	–	Open	
43	TEX	–	Connect to VSS	
44	VDD	–	+5V	
45	VFDP	–	-30V	
46	VIDEO1	O	NJM2296D control	H
47	VIDEO2			
48	VIDEO3			
49	SYS_DT	O	Clock signal for communication with LC7535M and TC9274N-001	H
50	SYS_CK			

No.	Pin Name	I/O	Pin Function	Active
51	SVIDEO1	O	TC4051 control (S terminal control)	H
52	SVIDEO2			
53	SVIDEO3			
54	TMUTE	O	Tuner mute	H
55	VMUTE	O	Video mute	L
56	CDREST	O	CS4226-KQ reset	L
57	LC4966	O	Input switch the DVD 6ch (L: DVD 5.1ch)	H
58	ST_9174	O	Strobe signal for communication with TC9174	H
59	AC3_9164	O	Strobe signal for communication TC9164AF	H
60	AC3RST	O	Reset the MUCAP	L
61	AC3BST	O	During transfer the application data to MUCAP "H"	H
62	RY_AC	O	AC relay ON/OFF	H
63	RY_HP	O	Headphone relay ON/OFF	H
64	RY_C/R	O	Rear/Center relay ON/OFF	H
65	RY_A+B	O	Speaker A + B relay ON/OFF	H
66	RY_B	O	Speaker B relay ON/OFF	H
67	RY_A	O	Speaker A relay ON/OFF	H
68	VHVL	O	Power switch for AMP system (H : VH)	H
69	S22/KEY13	O	Segment output 22/key scan output 13	H
70	S21/KEY12		Segment output 21/key scan output 12	
71	S20/KEY11		Segment output 20/key scan output 11	
72	S19/KEY10		Segment output 19/key scan output 10	
73	S18/KEY9		Segment output 18/key scan output 9	
74	S17/KEY8		Segment output 17/key scan output 8	
75	S16/KEY7		Segment output 16/key scan output 7	
76	S15/KEY6		Segment output 15/key scan output 6	
77	S14/KEY5		Segment output 14/key scan output 5	
78	S13/KEY4		Segment output 13/key scan output 4	
79	S12/KEY3		Segment output 12/key scan output 3	
80	S11/KEY2		Segment output 11/key scan output 2	
81	S10/KEY1		Segment output 10/key scan output 1	
82	S9	O	Segment output 9	H
83	S8		Segment output 8	
84	S7		Segment output 7	
85	S6		Segment output 6	
86	S5		Segment output 5	
87	S4		Segment output 4	
88	S3		Segment output 3	
89	VDD	—	5V	
90	S2	O	Segment output 2	H
91	S1		Segment output 1	
92	G11		Grid output 11	
93	G10		Grid output 10	
94	G9		Grid output 9	
95	G8		Grid output 8	
96	G7		Grid output 7	
97	G6		Grid output 6	
98	G5		Grid output 5	
99	G4		Grid output 4	
100	G3		Grid output 3	

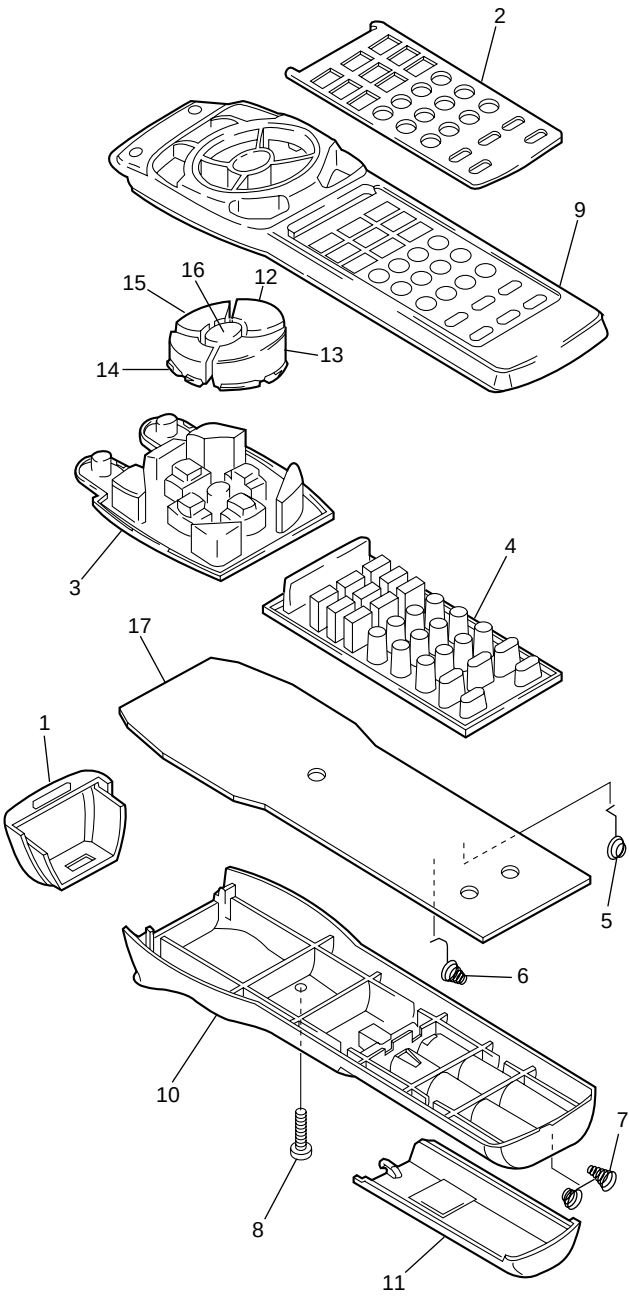
Note : • In the power off condition (with the remote control unit key or the main unit tact key), set to "L" excepting tuner mute (pin 54). However, it nothing is done against to the input port.

- When pin 10 and 11 detect "L" at the reset, be careful because it enter the microcomputer's own test mode.

7.3 REMOTE CONTROL UNIT [CU-VSA035 (AXD7237)]

7.3.1 Exploded Views and Parts List

NOTES: ● Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.
● The Δ mark found on some component parts indicates the importance of the safety factor of the part.
Therefore, when replacing, be sure to use parts of identical designation.
● Screws adjacent to ▼ mark on the product are used for disassembly.



● Parts List

Mark	No.	Description	Part No.
	1	Filter	AZA7152
	2	Name Plate	AZA7336
	3	Rubber Sheet (A)	AZA7308
	4	Rubber Sheet (B)	AZA7335
	5	Spring (+)	AZB7049
	6	Spring (-)	AZB7050
	7	Spring	AZB7051
	8	Screw	AZB7052
	9	Remo-con Case (A)	AZN7737
	10	Remo-con Case (B)	AZN7326
	11	Battery Cover	AZN7327
	12	Main Key (FF)	AZN7666
	13	Main Key (STOP)	AZN7741
	14	Main Key (REV)	AZN7665
	15	Main Key (PAUSE)	AZN7742
	16	Main Key (PLAY)	AZN7664
NSP	17	PCB	AZW7248

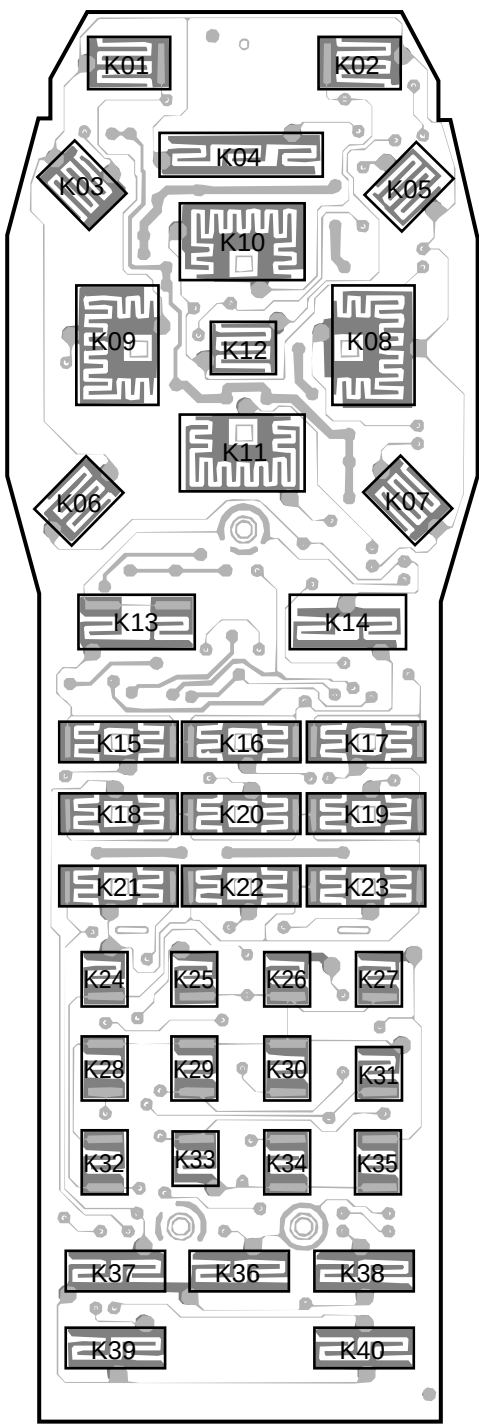
7.3.3 PCB Diagram

A

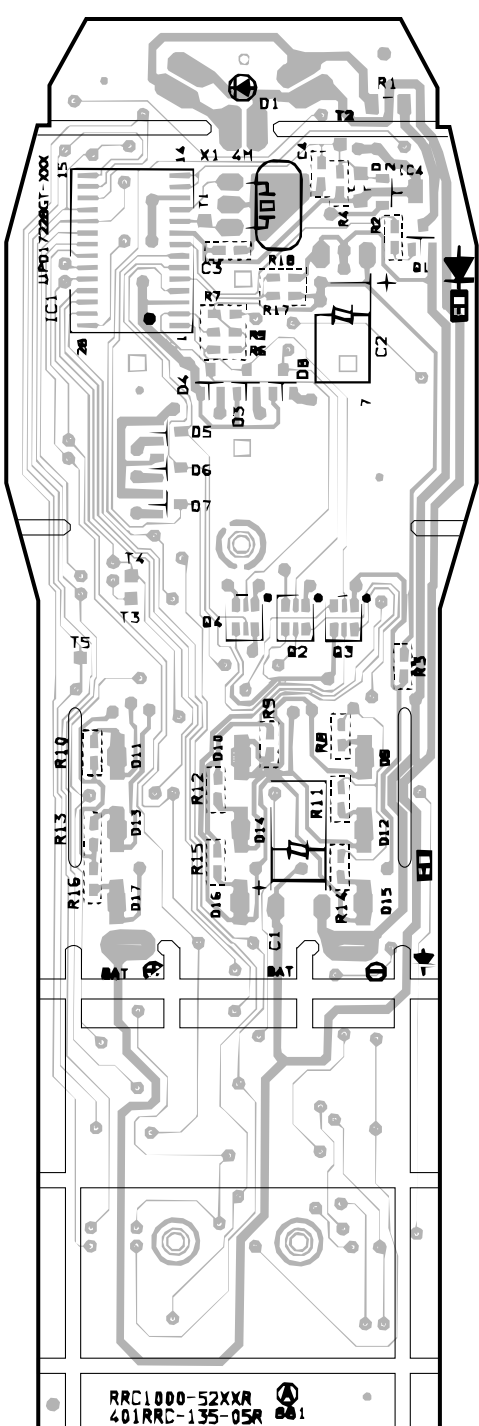
B

C

D



SIDE A



SIDE B

7.3.4 PCB Parts List

NOTES: ●Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.

●The $\triangle$ mark found on some component parts indicates the importance of the safety factor of the part.

Therefore, when replacing, be sure to use parts of identical designation.

●When ordering resistors, first convert resistance values into code form as shown in the following examples.

Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J=5%, and K=10%).

560 Ω	→	56×10^1	→	561	RD1/4PU	<table border="1"><tr><td>5</td><td>6</td><td>1</td></tr></table>	5	6	1	J
5	6	1								
47k Ω	→	47×10^3	→	473	RD1/4PU	<table border="1"><tr><td>4</td><td>7</td><td>3</td></tr></table>	4	7	3	J
4	7	3								
0.5 Ω	→	R50		RN2H	<table border="1"><tr><td>R</td><td>5</td><td>0</td></tr></table>	R	5	0	K	
R	5	0								
1 Ω	→	1R0		RS1P	<table border="1"><tr><td>1</td><td>R</td><td>0</td></tr></table>	1	R	0	K	
1	R	0								

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

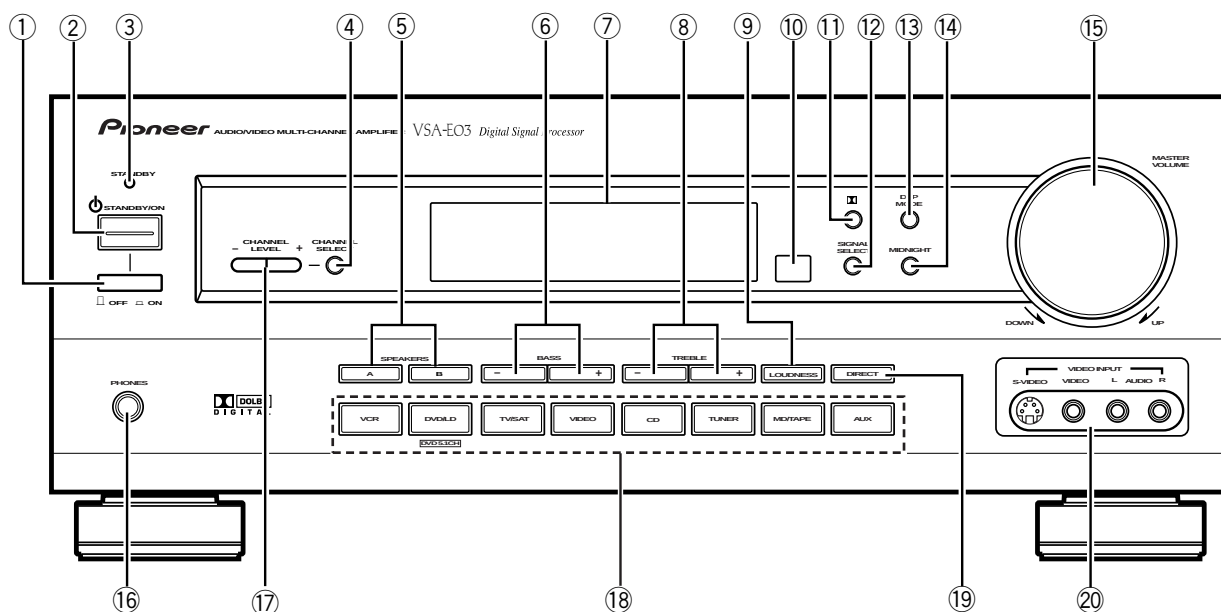
5.62k Ω	→	562×10^1	→	5621	RN1/4PC	<table border="1"><tr><td>5</td><td>6</td><td>2</td><td>1</td></tr></table>	5	6	2	1	F
5	6	2	1								

Mark	No.	Description	Part No.
SEMICONDUCTORS			
	IC1		AZC7282
	Q1		2SC3265
	D1		SE303A-C
	D2		RLS-73
	D9-D17		CL-230HR-CD
CAPACITORS			
	C1		CEAT470M10
	C2		CEAT221M6R3
	C3,C4		CEATR10M50
RESISTORS			
	R1		RS1/8S1R8J
	Other Resistors		RS1/10S□□□J
OTHERS			
	X1	CERAMIC RESONATOR (4MHz)	KBR-4.0M

8. PANEL FACILITIES AND SPECIFICATIONS

8.1 PANEL FACILITIES

■ Front Section



① **Main power switch (■ OFF, ▬ ON)**

② **⏻ STANDBY/ON button**

Press to switch the amplifier on or put in standby.

③ **STANDBY indicator**

Lights when the amplifier is in standby mode. (Please note that this amplifier consumes a small amount of power (1 W) during the standby mode.)

④ **CHANNEL SELECT button**

Use to select a speaker when adjusting speaker levels.

⑤ **SPEAKERS (A/B) buttons**

Use to switch the corresponding speaker system on or off. To listen to both speaker systems (A and B), press the buttons so that both A and B appear in the display. Only A speakers are available when using surround sound modes.

⑥ **BASS (-/+) button**

Press to adjust low frequencies in the range of ± 6 .

⑦ **Display**

⑧ **TREBLE (-/+) button**

Used to adjust high frequencies in the range of ± 6 .

⑨ **LOUDNESS button**

Switches the loudness on or off. Use to raise the level of the bass and treble so they can be more easily heard when listening at low volumes.

⑩ **Remote sensor**

Point the remote control toward the remote sensor to operate the amplifier.

⑪ **Ⓜ(Dolby) Surround button**

Press to select the Ⓜ (Dolby) Surround mode. This mode automatically switches between Dolby Digital and Dolby Pro Logic decoding according to the input signal.

⑫ **SIGNAL SELECT button**

Use to select input signals for the digital components. First press VCR, DVD/LD, TV/SAT, CD or MD/TAPE (⑬, Function buttons) to select the component, then press SIGNAL SELECT repeatedly to select one of the following:

ANALOG : Selects the analog (R and L) audio signals.

DIGITAL : Selects the digital audio signals. This amplifier automatically detects and displays the format of the signal being input. AC-3 lights when Dolby Digital signals are input. (AC-3 decoding is switched automatically.)

- SIGNAL SELECT is fixed in the "ANALOG" position for components not assigned to one of the three digital input jacks.
- Because the audio from a karaoke microphone and LD recorded with analog audio only is not output from the digital output, set SIGNAL SELECT to "ANALOG".
- This amplifier can only play back Dolby Digital, PCM (32kHz, 44kHz, and 48kHz) signal formats. With digital signal formats other than these, set SIGNAL SELECT to "ANALOG".

⑬ DSP MODE button

Press repeatedly to select a DSP sound mode (HALL 1, HALL 2, JAZZ, DANCE, THEATER 1, or THEATER 2). Use these modes to produce surround sound from standard (two channel) stereo sources.

⑭ MIDNIGHT button

Press to hear effective surround sound at low volume levels. The effect is automatically adjusted according to the volume level.

⑮ MASTER VOLUME

After turning on the desired component, rotate to adjust the volume.

⑯ PHONES jack

Connect headphones for private listening (the speakers turn off automatically).

⑰ CHANNEL LEVEL (-/+) button

Use to adjust individual speaker levels after having pressed CHANNEL SELECT to select a speaker channel.

⑱ Function buttons

Selects the function. Each press switches the DVD/LD input between DVD/LD and DVD 5.1 channel.

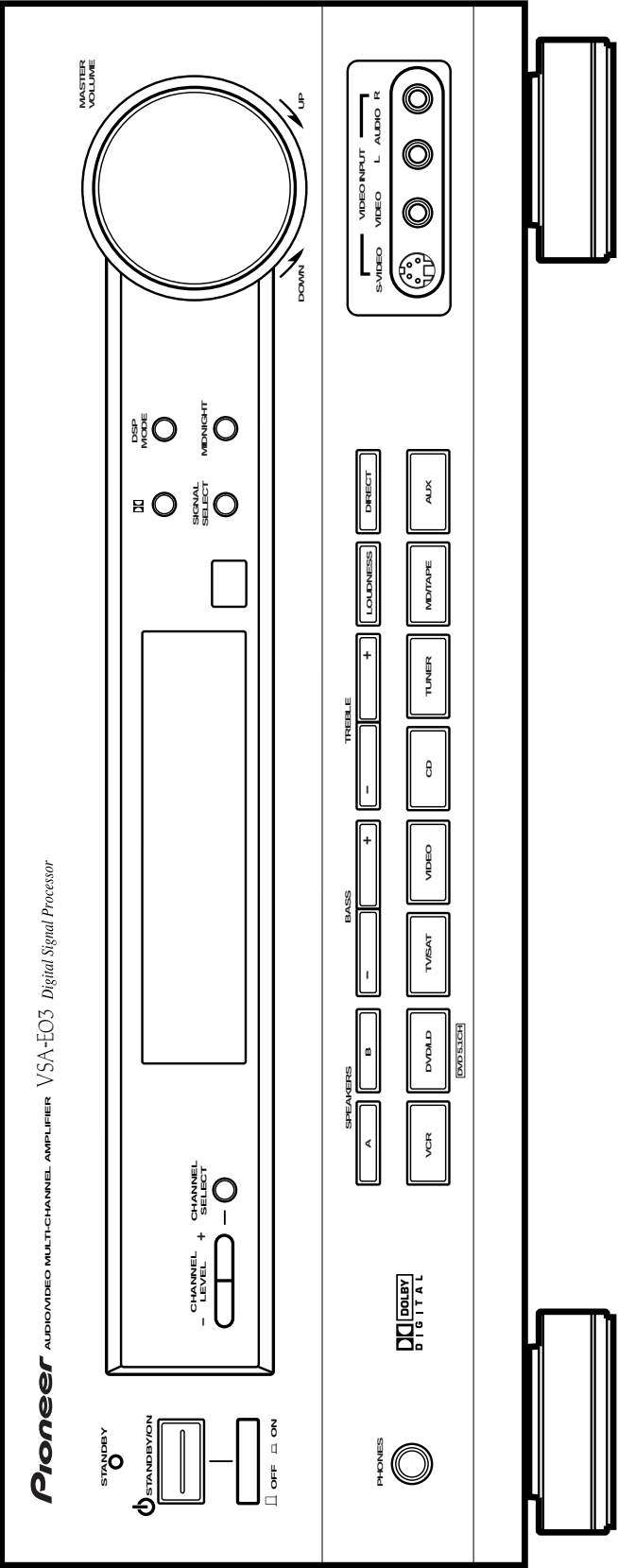
⑲ DIRECT button

Switches direct playback on or off. Use to bypass the amplifier's tone control circuitry or level control for higher fidelity to the program source. When DIRECT is ON, Dolby Surround, DSP, LOUDNESS, and MIDNIGHT mode are automatically turned OFF.

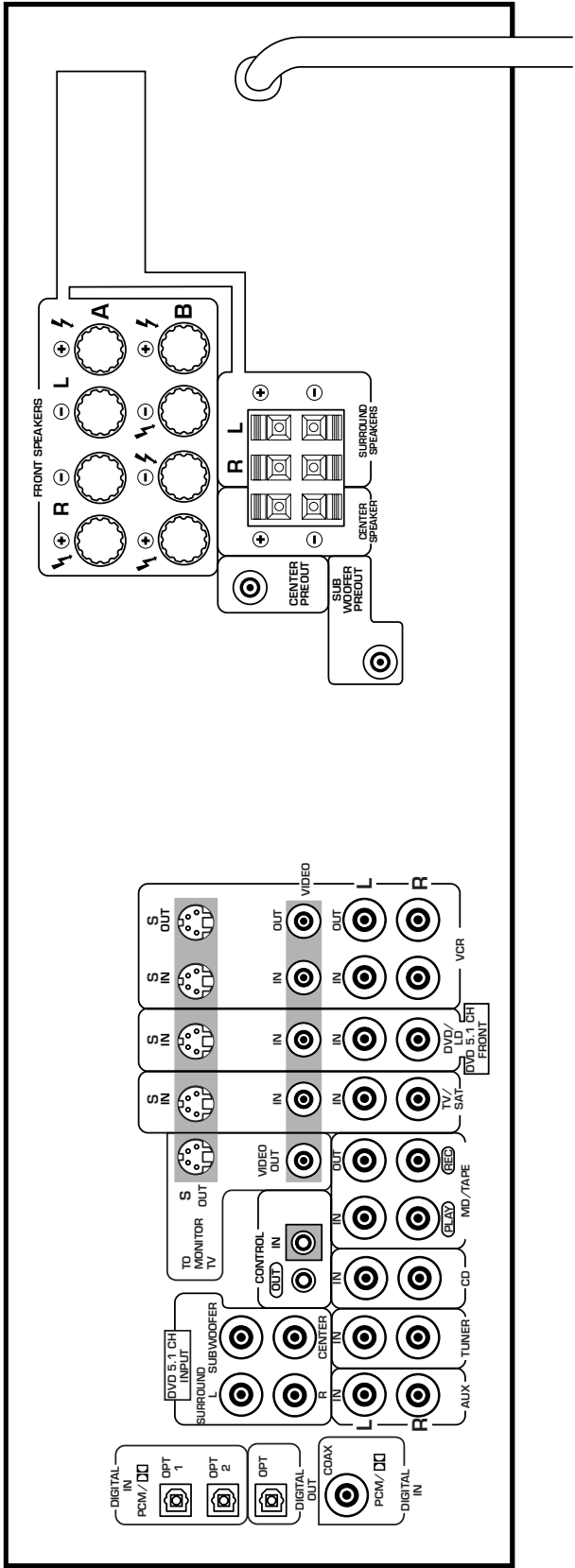
⑳ VIDEO INPUT jacks

Connect a video camera, video game system, etc. to the VIDEO INPUT jacks.

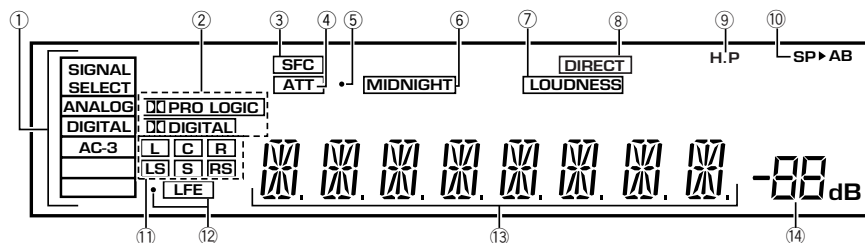
■ Front View



■ Rear View



■ Display



① SIGNAL SELECT indicators

Light to indicate the type of input signal selected for the current component.

ANALOG : Lights when the analog audio signals are selected.

DIGITAL : Lights when the digital audio signals are selected.

AC-3 : Lights when a source with Dolby Digital signals is played.

② Digital indicators

PRO LOGIC : When the Dolby Surround mode on the amplifier is on, this indicator lights during 2 channel playback of Dolby Digital sources.

DIGITAL : When the Dolby Surround mode on the amplifier is on, this indicator lights to indicate playback of a Dolby Digital signal. However, **PRO LOGIC** lights during 2 channel playback of Dolby Digital.

③ SFC (DSP) mode indicator

Lights when the DSP mode is selected.

④ ATT indicator

Lights when ATT is used to reduce the level of the input signal (available in ANALOG mode only).

⑤ Overload indicator

When "ANALOG" is selected in SIGNAL SELECT, this indicator lights to show that an excessively strong signal is being processed. When this occurs, press ATT on the remote control to attenuate the signal.

⑥ MIDNIGHT indicator

Lights when the MIDNIGHT mode is on.

⑦ LOUDNESS indicator

Lights when loudness is on.

⑧ DIRECT indicator

Lights when direct playback is on.

⑨ H.P indicator

Lights when headphones are plugged in.

⑩ Speaker indicators

Light to indicate the current speaker system.

SP ► A : Lights when speaker system A is selected.

SP ► B : Lights when speaker system B is selected.

⑪ Program format indicators

The following indicators light to show the channels being played back.

L : Left front*¹*², **C** : Center*¹, **R** : Right front*¹*²,
LS : Left surround*¹, **S** : Surround (mono)*²,
RS : Right surround*¹

*1: Indicates 5.1ch Dolby Digital playback.

*2: Indicates Dolby Pro Logic playback.

⑫ LFE indicator

LFE (Low Frequency Effects) indicator lights to indicate that the program source contains an LFE channel. The indicator to the left of LFE lights during actual playback of the LFE signals (LFE signals are not present in all parts of the sound track).

⑬ Character display

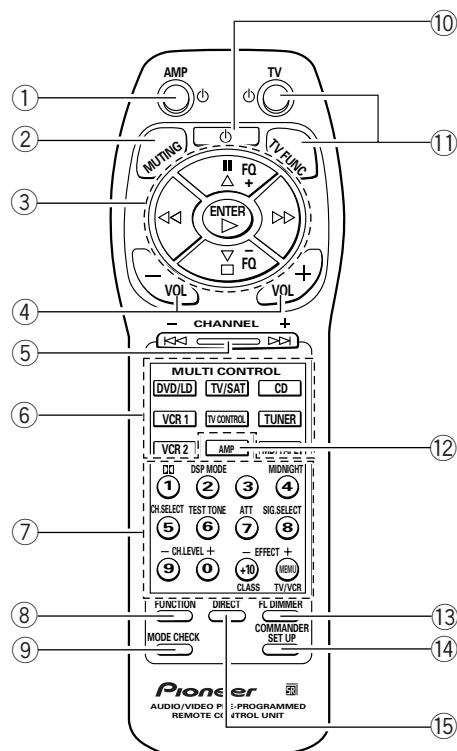
⑭ Volume level display

Displays the volume level. Volume level is maintained even when the power is off. ---dB indicates the minimum level, and 0dB indicates the maximum level.

- Depending on the level settings for individual channels, the MAX level can range between -10dB and 0dB.

■ Remote Control Unit

These pages describe the buttons on the remote control used to operate the amplifier.



① **AMP button**

Press to switch the amplifier on or to put in standby.

② **MUTING button**

Press to mute the volume. "MUTING" appears in the display. Press again to cancel.

③ **[When set to SURROUND]**

◀, ▶, △, ▽, (Select/Adjust) buttons

[When set to other than OPERATIONS]

⏸ (Pause), ⏹ (Stop), ⏮ (Rewind), ⏭ (Fast Forward), ENTER/▶ (Play) buttons

[Tuner Operations]

FQ + (to higher frequencies), FQ - (to lower frequencies), ◀◀ (MPX), ▶▶ (DISP MODE), ▶ (FM/AM) buttons

◀◀ (MPX): Use to switch the auto stereo/monaural mode for receiving FM broadcasts. When the received broadcast signal is weak, press this button to set the monaural mode.

▶▶ (DISP MODE): Use to switch the RDS data while listening to an FM station. Each press changes the display in the order of RT, PS, PTY, and frequency.

④ **VOL (-/+) buttons**

Press to adjust the volume. When VOL (-/+) buttons are pressed while muting, muting is canceled.

⑤ **CHANNEL (-/+) button**

Use to select preset stations when operating the tuner. When the remote is used to control other components, this button may be used to change channels, tracks, or chapters.

⑥ **MULTI CONTROL buttons**

Use these buttons to select the remote operation mode.

For example, pressing TUNER sets the remote to operate the tuner functions.

⑦ **Number buttons**

These buttons can perform a variety of different functions depending on the remote operation mode.

• [AMPLIFIER operations (press AMP first)]

⏸ : Switches the Dolby Surround mode on or off.

DSP MODE : Press repeatedly to select a DSP sound mode.

MIDNIGHT : Press to hear surround sound effectively at low volumes.

CH.SELECT : Use to select a speaker when adjusting speaker levels.

TEST TONE : Press to switch the test tone on or off when listening to a surround mode.

ATT : Press to attenuate (lower) the level of the input signals and prevent distortion.

SIG.SELECT : When the same component uses both analog and digital connections, use to select input signals as digital or analog.

CH.LEVEL (-/+) : Use to adjust individual speaker levels after having pressed CH. SELECT to select a speaker channel.

EFFECT (-/+) : Use to adjust the DSP mode effect level.

⑧ **FUNCTION button**

Press repeatedly to select a source.

⑨ **MODE CHECK button**

Press to confirm the current remote operation mode and to switch operation modes without changing the source.

⑩ **Power button**

Press to turn on or put in standby all connected components other than this unit.

⑪ **TV, TV FUNC button**

Press TV to turn the TV's power on or put in standby. Press TV FUNC to select the TV for remote control operation.

⑫ **AMP button**

Press to select the amplifier for remote control operation.

⑬ **FL DIMMER button**

Press to adjust the brightness of the fluorescent display. Four levels of brightness ranging from very dim to very bright can be selected.

⑭ **COMMANDER SET UP button**

Use to customize the remote control functions.

⑮ **DIRECT button**

Use to playback original source audio. When DIRECT is ON, Dolby Surround, DSP, LOUDNESS, and MIDNIGHT mode are automatically turned OFF.

8.2 SPECIFICATIONS

Continuous Power Output

(DIN, 1 kHz, T.H.D. 1%, 8 Ω)

STEREO	Front	100 W + 100 W
SURROUND	Front	60 W + 60 W
	Center	60 W
	Rear	60 W

Input (Sensitivity/Impedance)

VCR, DVD/LD, TV/SAT, VIDEO, CD, TUNER, AUX

MD/TAPE, ... 200 mV/47 k Ω

Frequency Response

VCR, DVD/LD, TV/SAT, VIDEO, CD, TUNER, AUX

MD/TAPE, ... 5 Hz to 100,000 Hz $^{+0}_{-3}$ dB

Output (Level/Impedance)

VCR REC, MD/TAPE REC 200 mV/2.2 k Ω

Tone Control

BASS ± 6 dB (100 Hz)

TREBLE ± 6 dB (10 kHz)

LOUDNESS +9 dB/+7 dB (100 Hz/10 kHz)

Signal-to-Noise Ratio [DIN (Rated power output/50 mW)]*

VCR, DVD/LD, TV/SAT, VIDEO, CD, TUNER, AUX

MD/TAPE, ... 82 dB/62 dB

VIDEO Section

Input (Sensitivity/Impedance)

VCR, DVD/LD, TV/SAT, VIDEO 1 V_{p-p}/75 Ω

Output (Level/Impedance)

VCR, MONITOR 1 V_{p-p}/75 Ω

Frequency Response

VCR, MONITOR 5 Hz to 7 MHz $^{+0}_{-3}$ dB

Signal-to-Noise Ratio 55 dB

Cross Talk 55 dB

* Direct: ON

** Measured by Audio Spectrum Analyzer.

Miscellaneous

Power Requirement AC 220-230 V, 50/60 Hz

Power Consumption 220 W

Power Consumption in Standby mode 1 W

Dimensions 420 (W) $\times$ 158 (H) $\times$ 401 (D) mm

Weight (without package) 9.8 kg

Furnished Parts

Dry Cell Batteries (SIZE "AA" (IEC LR6)) 2

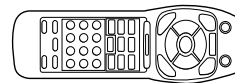
Remote Control Unit 1

Operating Instructions 1

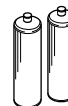
NOTE:

Specifications and the design are subject to possible modifications without notice, due to improvements.

Accessories



Remote control unit
(CU-VSA035 : AXD7237)



"AA" IEC LR6 batteries $\times$ 2

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